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February 15, 2019

Wayne Praskins  
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United States Environmental Protection Agency  
75 Hawthorne Street  
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Subject: Quarterly Performance Evaluation Report,  
Interim Groundwater Containment Remedy,  
Omega Chemical Superfund Site, Whittier, California

Dear Mr. Praskins:

Enclosed for your review is the Quarterly Performance Evaluation Report for the Operable Unit 1 (OU-1) Interim Groundwater Containment Remedy (GCR), Omega Chemical Superfund Site, Whittier, California. The purpose for this report is to provide the USEPA with data associated with the operations of the OU-1 Groundwater Containment Remedy during the fourth quarter 2018.

This report complies with the requirements in the April 2007 Performance Standards Verification Plan, Operations, Maintenance, and Monitoring Manual for the operation of the GCR. Overall, this report is being provided to satisfy the data reporting requirements defined under Section IX of the February 2001 Consent Decree No. 00-12471 between the USEPA and OPOG by presenting data collected during the period and providing evidence that the GCR is compliant with the OU-1 Groundwater Removal Action Objectives.

Should you have any questions, regarding the above, please contact me.

Sincerely,

Omega Chemical Site PRP Organized Group

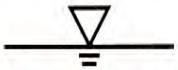


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Project Coordinator



Jaime Dinello, PE  
Project Manager

cc: Don Indermill, DTSC



*de maximis, inc.*

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FEBRUARY 15, 2019

INTERIM GROUNDWATER CONTAINMENT REMEDY  
QUARTERLY PERFORMANCE EVALUATION REPORT  
FOURTH QUARTER 2018  
OMEGA CHEMICAL SUPERFUND SITE, OU-1

*Prepared for:*

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*Prepared by:*

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# INTERIM GROUNDWATER CONTAINMENT REMEDY OPERABLE UNIT 1 OMEGA CHEMICAL SUPERFUND SITE

## Quarterly Performance Evaluation Report Fourth Quarter 2018

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## ACRONYMS AND ABBREVIATIONS

|         |  |
|---------|--|
| bgs     | Below ground surface   |
| CERCLA  | Comprehensive Environmental Response, Compensation, and Liability Act* |
| CD      | Consent Decree   |
| DPE     | Dual Phase Extraction  |
| EE/CA   | Engineering Evaluation/Cost Analysis                                   |
| EW      | Extraction well  |
| GCR     | Groundwater Containment Remedy   |
| GWTP    | Groundwater Treatment Plant  |
| gpm     | Gallons per minute   |
| HRA     | Health Risk Assessment   |
| OM&M    | Operation, Maintenance, and Monitoring                                 |
| OPOG    | Omega Chemical Site PRP Organized Group*                               |
| OU-1    | Operable Unit 1  |
| OU-2    | Operable Unit 2*   |
| PSVP    | Performance Standards Verification Plan                                |
| RAOs    | Removal Action Objectives  |
| RAP/PDR | Removal Action Plan and Preliminary Design Report                      |
| SCAQMD  | South Coast Air Quality Management District                            |
| SDLAC   | Sanitation Districts of Los Angeles County                             |
| USEPA   | United States Environmental Protection Agency*                         |
| VOC     | Volatile Organic Compound  |
| VGAC    | Vapor Phase Granular Activated Carbon                                  |

\*These acronyms are assumed to be known to the reader and are not spelled out in the report.

# INTERIM GROUNDWATER CONTAINMENT REMEDY

## OPERABLE UNIT 1 OMEGA CHEMICAL SUPERFUND SITE

### Quarterly Performance Evaluation Report

Fourth Quarter 2018

#### 1. INTRODUCTION

Operable Unit 1 (OU-1) of the Omega Chemical Superfund Site is defined as the area of soil and groundwater contamination at the former Omega Chemical property located at 12504 and 12512 Whittier Blvd, Whittier, California, and extending in a downgradient direction to approximately 100 feet southwest of Putnam Street, Whittier, California (Figure 1). This quarterly performance evaluation report has been prepared on behalf of OPOG to comply with the February 2001 Consent Decree (CD) No. 00-12471 between the USEPA and OPOG (USEPA, 2001). The CD required OPOG to conduct an Engineering Evaluation/Cost Analysis (EE/CA) to identify and recommend a groundwater containment remedy (CDM, 2005). USEPA selected the remedy recommended in the EE/CA via the September 2005 Removal Action Memorandum (USEPA, 2005). As stated in this action memorandum, the primary goal of the selected remedy is to contain the highest levels of contamination dissolved in groundwater within OU-1, so that the contamination does not migrate and contribute to the downgradient regional groundwater plume. To achieve this goal, the OU-1 Groundwater Containment Remedy (GCR) was installed and began operating in 2009. A brief operational history is provided in the table below.

#### Brief Operational Summary of GCR

|                          |   |
|--------------------------|---|
| February 2001            | Partial Consent Decree No. 00-12471 entered into the US District Court on February 28, 2001.                          |
| July 2005                | EE/CA submitted with recommended interim groundwater containment remedy.  |
| September 2005           | EPA issued an Action Memorandum to construct and operate an interim groundwater containment system for the OU-1 area. |
| July 2009                | Construction of the groundwater containment system was completed. The system began operation.                         |
| June 2014 – January 2015 | Operations ceased due to vandalism.   |
| January 2015             | Operations resumed.   |

|               |  |
|---------------|--|
| February 2015 | Conveyance of extracted groundwater from the OU-1 On-Site Soil Remedy dual phase extraction wells to the GCR for treatment was initiated (see Section 4.2).                  |
| July 2016     | Volume of extracted groundwater conveyed from the OU-1 On-Site Soil Remedy was increased; two additional dual phase extraction wells were brought on line (see Section 4.2). |

## 2. REPORT PURPOSE AND ORGANIZATION

This report complies with the requirements in the Performance Standards Verification Plan (PSVP), Operations, Maintenance, and Monitoring (OM&M) Manual, and Section IX of the CD by presenting data collected during the quarter and providing evidence that the GCR is compliant with the OU-1 Groundwater Removal Action Objectives (RAOs). This report contains the following general content:

- Description of the OU-1 Groundwater RAOs (Section 3);
- Description of the OU-1 GCR (Section 4);
- A discussion of groundwater containment monitoring data and compliance with the containment RAO (Section 5);
- Summary of GCR system operational monitoring (Section 6);
- Overall summary assessment of system operations and recommended changes or modification to the system (Section 7); and
- Planned activities for the next quarter (Section 8).

## 3. OU-1 GROUNDWATER REMOVAL ACTION OBJECTIVES

The OU-1 Groundwater RAOs established as performance standards in the 2001 CD are as follows:

- Achieve vertical and lateral hydraulic containment of groundwater contamination within OU-1 (primary documentation of such is via piezometric monitoring), and

- Meet specified air emissions standards and groundwater treatment standards appropriate to the treated water end use.

#### **4. DESCRIPTION OF THE OU-1 GROUNDWATER CONTAINMENT REMEDY AND ROLE OF MORE RECENTLY INSTALLED OU-1 MULTIPURPOSE EXTRACTION WELLS**

As stated in the 2005 Action Memorandum (USEPA, 2005):

- *"The primary goal of the proposed interim removal action is to contain the highest levels of contamination dissolved in groundwater within OU-1, so they do not migrate and contribute to the OU-2 plume."*

AND

- *"To achieve this goal, five groundwater extraction wells would be installed within the Putnam Street right of way to form a hydraulic barrier along the primary flow pathway for downgradient contaminant migration."*

Construction of the GCR was completed in 2009 and the remedy became operational in July 2009.

##### **4.1. COMPONENTS OF THE GCR**

The primary components of the 2009 installed GCR include the following (see Figure 1):

- Five hydraulic containment extraction wells (EW-1, EW-2, EW-3, EW-4, and EW-5) that are designed to form a barrier to groundwater flow from the former Omega property, past the south-western boundary of OU-1;
- The Groundwater Treatment Plant (GWTP), including an air stripper, two vapor-phase granular carbon (VGAC) vessels, and conveyance piping that are used to convey and treat extracted groundwater and air stripper vapor emissions for discharge; and,
- A network of eleven groundwater monitoring wells and 4 piezometers that are used for data collection points to assess the performance of the GCR.

The GCR operates 24 hours per day, 365 days per year, except for periods of routine or required maintenance. In accordance with the approved Removal Action Plan and Preliminary

Design Report (RAP/PDR), the groundwater extraction wells target the water table aquifer, which extends to approximately 90 feet below ground surface (bgs) (CDM, 2005a). This is the target extraction zone for containment.

The air stripper treats extracted groundwater by transferring VOCs from the groundwater into the vapor phase, creating a VOC-laden vapor stream which is treated by the two VGAC vessels in series (a primary vessel and a secondary vessel), prior to emission to the atmosphere.

Treated groundwater is discharged into the Sanitation Districts of Los Angeles County (SDLAC) sewer system and is monitored in accordance with a SDLAC industrial waste permit (renewed on a five-year basis with the most recent renewal issued in August 2017).

Treated vapor is monitored in accordance with requirements established with the South Coast Air Quality Management District (SCAQMD) Health Risk Assessment (HRA) (CDM Smith, 2015)<sup>1</sup>. Additional details regarding the GWTP equipment and documentation are available in the OM&M Manual (CDM, 2010)<sup>1</sup>.

Monitoring wells and piezometers specified in the PSVP are used to collect piezometric and water quality data to demonstrate compliance with the OU-1 containment RAO (Figure 1) (CDM, 2007). The performance of the GCR to hydraulically contain groundwater within OU-1 has been assessed and reported since operations began in July 2009. The success of the EW-series wells installed along Putnam Street to provide a barrier to groundwater flow from the former Omega property has been documented in annual performance monitoring reports starting in 2009. Extraction well EW-2 was the primary producer of groundwater prior to the regional drought, generating most of the groundwater extracted each year from 2009 through 2013 and thus forming the point of flow convergence within OU-1, demonstrating capture (CDM Smith, 2013).

#### 4.2. ROLE OF MORE RECENTLY INSTALLED OU-1 MULTIPURPOSE EXTRACTION WELLS

In addition to operation of the GCR hydraulic containment extraction wells, other groundwater extraction is occurring within OU-1. Seven dual-phase extraction (DPE) wells are also operating and extracting groundwater within OU-1. These DPE wells were constructed in June through

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<sup>1</sup> These documents are undergoing modification consistent with recent discussions with USEPA, and the 2010 CD.

December 2014 as part of the Full Scale On-Site (OU-1) Soil Remedy under the 2010 Consent Decree between the USEPA and OPOG. These soil remedy DPE wells are DPE-3, DPE-4, DPE-5, DPE-8, and DPE-9 which became operational in February 2015; and VE-7D and VE-10D which became operational in July 2016. These Full Scale On-Site (OU-1) Soil Remedy DPE wells are also shown on Figure 1. Although installed as part of the Full Scale On-Site (OU-1) Soil Remedy to increase subsurface vapor removal, the DPE wells are currently extracting most of the water treated by the GWTP because they are screened deeper than the GCR hydraulic containment extraction wells. The declining regional water levels and groundwater extraction at OU-1 have effectively dewatered the aquifer.

## **5. CONTAINMENT RAO COMPLIANCE MONITORING AND ANALYSIS**

Groundwater data are collected and evaluated to demonstrate compliance with the containment RAO as described below.

- Quarterly piezometric data from the PSVP-specified monitoring locations are plotted to illustrate that groundwater flow is toward the pumping wells (CDM, 2005a). According to the CD, these data provide the primary documentation of containment (USEPA, 2001).
- Semi-annual water quality data from PSVP-specified monitoring locations are plotted on time-series charts to show concentration trends (CDM, 2007). These data are collected during the first and third quarter monitoring events and are used to further demonstrate horizontal and vertical containment.
- Annually, concentration trends at downgradient wells OW-9 and OW-10 are evaluated using the Mann-Kendall test on cumulative historical PCE, TCE, and 1,4-dioxane concentrations over the most current three-year period (OPOG, 2016).
- Annually, a particle tracking figure that simulates the hydraulic capture zone within the OU-1 boundary is prepared from the updated analytical model (CDM, 2007). The simulated capture zone is used to support the piezometric capture analysis.

This report provides the quarterly assessment of the containment RAO. The results are presented below.

### **5.1. QUARTERLY PIEZOMETRIC MONITORING**

Quarterly piezometric data were collected and subjected to analysis as stated above. Attachment A (CDM Smith, 2019) provides an analysis of the piezometric conditions observed during the reporting period. As discussed therein, and as demonstrated by Figure A-1, horizontal containment of OU-1 groundwater continues to be achieved. It is also noted that the regional drought conditions and the pumping from Full Scale On-Site (OU-1) Soil Remedy DPE wells have reduced water levels locally to below the pump intake of some GCR extraction wells.<sup>2</sup> The combination of all these factors has essentially dewatered the aquifer within the OU-1 boundary, and thus is providing horizontal containment. The PSVP-piezometric data are provided in Attachment B, Table B-1.<sup>3</sup> Historical PSVP-piezometric data are presented in time series charts in Attachment B, Figures B-1 through B-20.

Vertical gradients are examined at a well triplet and two well pairs (Figure A-2). There is minimal hydraulic connection between the shallow extraction zone (A-Zone) and the deeper B-Zone due to the presence of a confining layer which prevents significant downward vertical transport (Figure A-4). The significant head differential between the A-Zone and B-Zone is further evidence of poor hydraulic connection between the zones. See Attachment A for a more detailed discussion.

## 6. GCR SYSTEM OPERATIONS MONITORING

GCR operational data are collected to support the determination of compliance with the second RAO (treated vapor emissions and treated groundwater discharge) as well as to conform to the requirements of the PSVP and OM&M Manual. Field forms for the operational monitoring are included in Attachment C. Analytical laboratory reports and data verification reports are included in Attachment D.

The following paragraphs provide a summary of key operational parameters and compliance

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<sup>2</sup> Dual phase extraction wells were installed as part of the Full Scale On-Site (OU-1) Soil Vapor Remedy, and are designed to address soil contamination by reducing the water level in vapor extraction wells, exposing more soil to vapor extraction. A secondary benefit of these wells is that they remove groundwater from within OU-1, contributing to hydraulic containment and groundwater mass removal.

<sup>3</sup> The 2007 PSVP also listed wells OW-4a and OW-4b (located approximately 500 feet down gradient of the OU-1 boundary) as monitoring locations to determine flow direction and gradients outside the capture zone. As discussed with EPA, these wells were transferred out of the OU-1 program in 2017 and are now monitored by OPOG and other Settling Work Defendants as part of OU-2 in accordance with the Consent Decree approved by the court in March 2017. These wells are no longer used by OPOG to generate information for assessing performance of the OU-1 GCR.

with both vapor phase emissions and aqueous phase discharge requirements.

### **Key Operational Parameters**

All GCR extraction wells (EW-1, EW-2, EW-3, EW-4, and EW-5) were mechanically functional during this quarter. The measured pump run-time, calculated extracted volume, average flow rates per well, and calculated mass removed per extraction well are provided in Attachment E, Table E-1.

The GCR had an operational run time of approximately 95 percent during the quarter (Table 1). Performance summaries for the Air Stripper and VGAC units are provided below.

Air stripper performance:

- 2.3 pounds of VOC mass were removed from treated groundwater by the air stripper during the reporting period and approximately 969 pounds since project inception in 2009 (Table 1, Figure 2);
- VOC concentrations in groundwater prior to and after treatment by the air stripper are summarized in Table 2. These data show continued effectiveness in transferring VOCs from the aqueous phase to the vapor phase for treatment by the VGAC; and,
- Air stripper influent concentrations over time are shown on Figure 3.

VGAC performance:

- VOC concentrations in vapor at the VGAC influent, intermediate point, and effluent are summarized in Table 3. These data show that the VGAC removed VOCs from the VOC-laden vapor flow, transferring it to the activated carbon by adsorption; and,
- VGAC operational conditions during the quarter are summarized in Attachment E, Table E-2. These data demonstrate that the VGAC and related processes were functioning efficiently and that no carbon changeout was required.<sup>4</sup> No carbon changeout occurred

<sup>4</sup> The SCAQMD Health Risk Assessment (CDM Smith, 2015) requires that a carbon changeout occur when the efficiency of the primary absorber drops below 90% and the intermediate VOC concentration exceeds 12 parts per million by volume as hexane. Typically, OPOG elects to preemptively changeout the carbon prior to triggering the SCAQMD HRA changeout criteria. OPOG's changeout decision is based on the level of VOC desorption observed at the intermediate point between the VGAC vessels. Analytical results from

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during the reporting period. The last carbon changeout occurred on March 23, 2015.

### **Compliance with Emissions and Discharge Requirements**

Although a permit to operate is not required from SCAQMD per CERCLA Section 121, the VGAC is monitored to verify that emissions limits identified in the SCAQMD HRA (CDM Smith, 2015) are being met. There are two types of SCAQMD emissions limits: chemical-specific concentrations in VGAC effluent and VGAC operational conditions. Based on sample results, the VGAC effluent satisfied the SCAQMD HRA chemical-specific limits as well as the SCAQMD operational requirements for flow rate, temperature, and total VOC emissions as indicated by a photo-ionization detector (Table 3, Table E-2). Laboratory analytical reports are provided in Attachment D.

SDLAC issued an Industrial Waste Discharge Permit (No. 20039) in September 2007 for the discharge of treated water from the GWTP to sewer manhole No. MH 18-0271 at Crowndale Street. As required, the permit is renewed on a five-year basis. The first permit renewal was received in 2012 and the second permit renewal was granted on August 8, 2017.

Compliance samples are collected on a quarterly basis from the designated sample collection point, identified as 20039A, and analyzed by a third-party representative, currently Test America, as required by the permit. Test America is located in Irvine, California.

The results for quarterly effluent samples were provided to SDLAC in the self-monitoring report (Attachment F). The analytical results reported by Test America show that all analytes were within SDLAC permit limits or were non-detectable above reporting limits.

Other groundwater data collected during the quarter, including data from groundwater pumped from the Full Scale On-Site (OU-1) Soil Remedy DPE wells, are summarized in Attachment G. This includes operational information such as volume of groundwater extracted this quarter and if analytical data were collected, then also calculations of mass removed per pumping well.

## **7. SUMMARY OF MONITORING AND RECOMMENDATIONS**

The OU-1 GCR continues to be compliant with the CD RAOs.

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monthly VGAC monitoring are reviewed when received from the laboratory, and each month a determination is made whether to change or retain the current carbon load (Attachment E).

Horizontal containment continues to be achieved via pumping within the OU-1 boundary. Pumping from the GCR extraction wells was limited during this quarter due the restricted saturated thickness of the aquifer resulting from drought conditions and other ongoing remedial pumping within the OU-1 boundary. Vertical containment is provided by the confining layer between the shallow and deep zones.

GCR operational data collected this quarter provide evidence that the treated vapor emissions met SCAQMD HRA requirements, and the treated water discharged met SDLAC permit requirements.

No modifications to the GCR operations are required at this time. No modifications to the GCR operations were implemented during the reporting period. It is recommended that the GCR continue to be implemented as currently configured.

## **8. PLANNED ACTIVITIES**

Planned activities for the next quarter include the following:

- Routine status calls with USEPA;
- Weekly, monthly, and quarterly OM&M activities;
- Monthly assessment of VGAC effectiveness and need for carbon changeout;
- Quarterly piezometric monitoring and assessment of capture for compliance with RAOs;
- Semi-annual groundwater monitoring;
- Monthly and quarterly assessment of data to determine if system adjustments are appropriate;
- Quarterly performance reporting; and
- Continued communication as needed with property owners, tenants, and the city of Whittier regarding access for monitoring and other GCR activities.

## 9. REFERENCES

- CDM. (2005). *Engineering Evaluation and Cost Analysis*, July 29.
- CDM. (2005a). *Removal Action Plan and Preliminary Design Report*, December 16.
- CDM. (2007). *Performance Standards Verification Plan for Phase 1a Area Groundwater Treatment System*, April 19.
- CDM. (2010). *Final Operations, Maintenance, and Monitoring Manual*, February 19.
- CDM Smith. (2015). *Memorandum: Treatment of Effluent from Groundwater Treatment System and Soil VaporExtraction, Omega Chemical Superfund Site, Whittier, California 90602*, February 26.
- CDM Smith. (2019). *Quarterly Groundwater Containment review*, January.
- OPOG. (2016). *OPOG Responses to EPA Comments dated March 10 and 21, 2016, Draft 2015 Annual PSVP Report, Omega Chemical Superfund Site, Whittier, California*, August.
- USEPA. (2001). *Consent Decree No. 00-12471*, February 28.
- USEPA. (2005). *Removal Action Memorandum*, September 27.

**Table 1**  
**GWTP Operational Summary and Mass Removed Totals**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**Fourth Quarter 2018**

| Month                   | GWTP Runtime Percent <sup>1</sup> (%) | GWTP Runtime Hours (hrs) | Operational Flow Rate <sup>2</sup> (gpm) | Average Flow Rate <sup>3</sup> (gpm) | Total Gallons Processed <sup>4</sup> (gal) | Mass Removed <sup>5</sup> (lbs) |
|-------------------------|---------------------------------------|--------------------------|--|--------------------------------------|--|---------------------------------|
| October 2018            | 95                                    | 707                      | 4.8                                      | 4.6                                  | 203,450                                    | 0.9                             |
| November 2018           | 95                                    | 685                      | 4.8                                      | 4.6                                  | 199,300                                    | 0.7                             |
| December 2018           | 96                                    | 715                      | 4.9                                      | 4.7                                  | 207,800                                    | 0.7                             |
| <b>2nd Quarter 2018</b> | <b>Average = 95</b>                   | <b>Average = 702</b>     | <b>Average = 4.8</b>                     | <b>Average = 4.6</b>                 | <b>Total = 610,550</b>                     | <b>Total = 2.3</b>              |
|                         |                                       |                          |  | <b>Cumulative Total<sup>6</sup></b>  | <b>42,376,665</b>                          | <b>969</b>                      |

**Notes:**

1. GWTP Runtime Percent is the percentage of total hours in the month that the GWTP actually operated.
2. Operational flow rate calculated from total gallons processed in the month and hours the GWTP actually operated in the month.
3. Average flow rate is calculated from total gallons processed in the month and total hours in the month, regardless of GWTP uptime.
4. Total gallons processed includes groundwater pumped to the GWTP from the Full Scale On-Site (OU-1) Soil Remedy DPE wells.
5. Mass removed is calculated from the average VOC concentration in the air stripper influent and discharge, and the total gallons processed. See Table 3.
6. The GWTP has to date treated 42,376,665 gallons of water and removed a cumulative total of 969 pounds of contaminant. See Figure 2.

gpm = gallons per minute

hrs = hours

gal = gallons

lbs = pounds

**Table 2**  
**Air Stripper Influent and Effluent Concentrations Demonstrating Proper System Function**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**Fourth Quarter 2018**

| Sample ID            | Sample Date | PCE | TCE | MeCL | 1,2-DCA | Freon 11 | Freon 113 |
|----------------------|-------------|-----|-----|------|---------|----------|-----------|
| OC_SP210_INF_101218  | 10/12/2018  | 290 | 33  | 5 U  | 2.7     | 21       | 94        |
| OC_SP220B_EFF_101218 | 10/12/2018  | 1 U | 1 U | 5 U  | 1 U     | 1 U      | 5 U       |
| OC_SP210_INF_110918  | 11/9/2018   | 260 | 28  | 5 U  | 2.7     | 19       | 81        |
| OC_SP220B_EFF_110918 | 11/9/2018   | 1 U | 1 U | 5 U  | 1 U     | 1 U      | 5 U       |
| OC_SP210_INF_121818  | 12/18/2018  | 220 | 29  | 25 U | 5 U     | 27       | 100       |
| OC_SP220B_EFF_121818 | 12/18/2018  | 1 U | 1 U | 5 U  | 1 U     | 1 U      | 5 U       |

Notes:

INF = Air stripper influent water. Untreated water sample collected downstream of bag filters.

EFF = Air stripper effluent water. Treated water sample collected in discharge header upstream of SDLAC sample box.

All results are in micrograms per liter (ug/L)

U = not detected above reporting limit listed

PCE = Tetrachloroethene; TCE = Trichloroethene; MeCL = Methylene chloride; 1,2-DCA = Dichloroethane

**Table 3**  
**Vapor Phase GAC Concentrations Demonstrating Substantive Compliance with SCAQMD Regulations**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**Fourth Quarter 2018**

| SCAQMD Chemical-Specific Effluent Limit <sup>1</sup> |             |       | 268.6        | 13.4         | 60           | 4.6          | 20           | 31.2        | 20           | 13         |
|--|-------------|-------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|------------|
| Sample ID  | Sample Date | Units | PCE          | TCE          | 1,1-DCA      | 1,2-DCA      | BZ           | MeCl        | VC           | CFM        |
| OC_VGAC_INF_SP241_101218                             | 10/12/2018  | ppbv  | 65           | 10           | 1.2 U        | 1.2 U        | 1.2 U        | 12 U        | 1.2 U        | 5.1        |
| OC_VGAC_INT_SP245_101218                             | 10/12/2018  | ppbv  | 1.2 U        | 1.2 U        | 1.2 U        | 1.6          | 1.2 U        | 12 U        | 1.2 U        | 6.1        |
| <b>OC_VGAC_EFF_SP242_101218<sup>2</sup></b>          | 10/12/2018  | ppbv  | <b>1.2 U</b> | <b>12 U</b> | <b>1.2 U</b> | <b>4.8</b> |
| OC_VGAC_INF_SP241_110918                             | 11/9/2018   | ppbv  | 69           | 11           | 1.1 U        | 1.1 U        | 1.1 U        | 11 U        | 1.1 U        | 6          |
| OC_VGAC_INT_SP245_110918                             | 11/9/2018   | ppbv  | 1.1 U        | 1.1 U        | 1.1 U        | 1.7          | 1.1 U        | 11 U        | 1.1 U        | 5.8        |
| <b>OC_VGAC_EFF_SP242_110918</b>                      | 11/9/2018   | ppbv  | <b>1.3 U</b> | <b>13 U</b> | <b>1.3 U</b> | <b>4.4</b> |
| OC_VGAC_INF_SP241_121818                             | 12/18/2018  | ppbv  | 62           | 9.1          | 1.1 U        | 1.1 U        | 1.1 U        | 11 U        | 1.1 U        | 4.4        |
| OC_VGAC_INT_SP245_121818                             | 12/18/2018  | ppbv  | 1.1 U        | 1.1 U        | 1.1 U        | 1.2          | 1.1 U        | 11 U        | 1.1 U        | 4          |
| <b>OC_VGAC_EFF_SP242_121818</b>                      | 12/18/2018  | ppbv  | <b>1.1 U</b> | <b>11 U</b> | <b>1.1 U</b> | <b>2.8</b> |
| <b>Compliance with Effluent Limits?</b>              |             |       | <b>YES</b>   | <b>YES</b>   | <b>YES</b>   | <b>YES</b>   | <b>YES</b>   | <b>YES</b>  | <b>YES</b>   | <b>YES</b> |

1. SCAQMD effluent limits are in parts per billion volume (ppbv)

2. Bold text indicates vapor effluent results from the VGAC effluent required to meet SCAQMD HRA chemical specific limits shown in the table.

INF = Vapor phase GAC influent. VOC-laden vapor sample collected at the influent to the lead vapor GAC unit.

INT = Vapor phase GAC intermediate. Partially treated vapor sample collected between the lead and lag vapor GAC units.

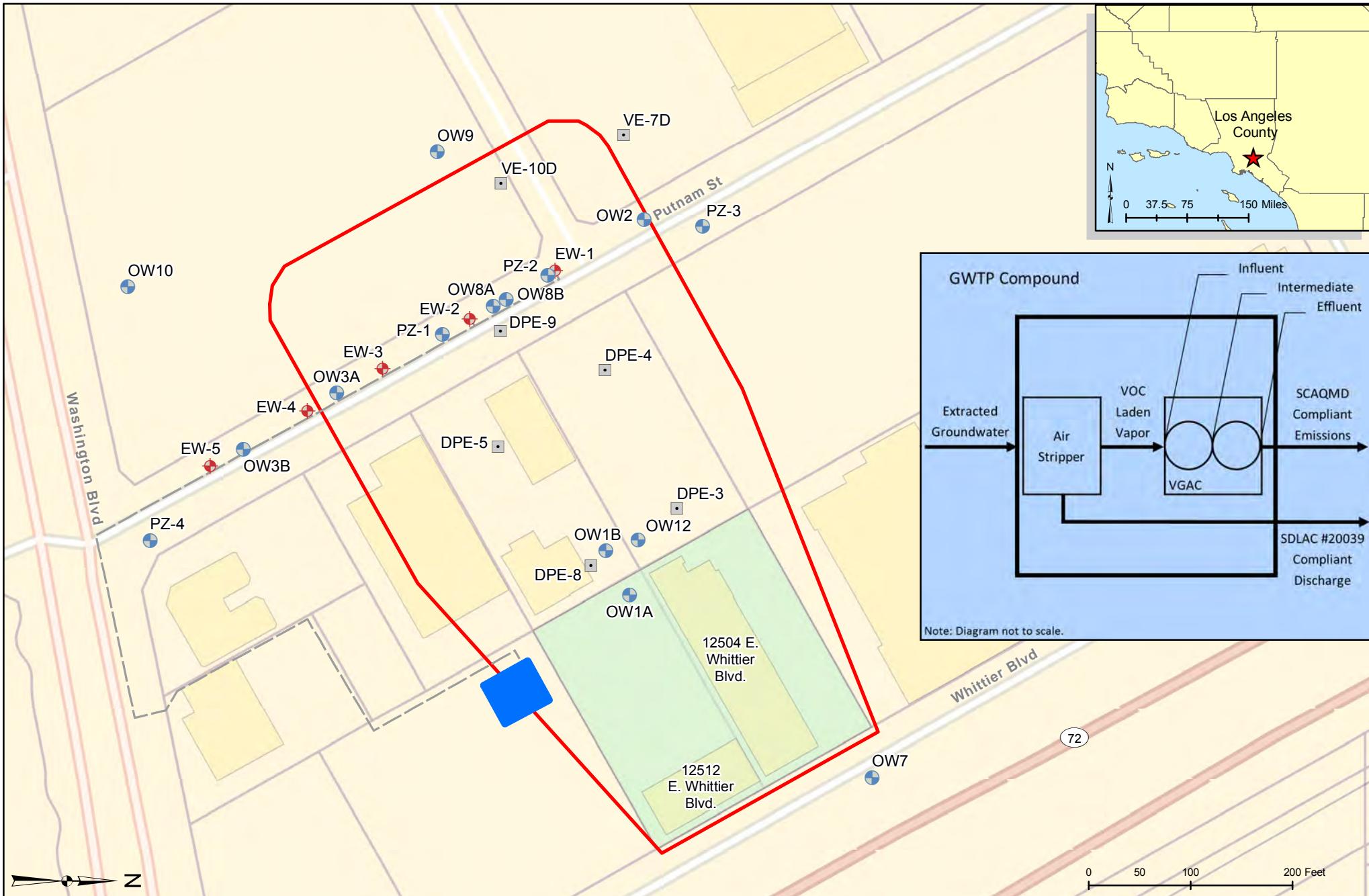
EFF = Vapor phase GAC effluent. Fully treated vapor sample collected at the effluent from lag (polishing) vapor GAC unit.

VGAC = vapor phase granular activated carbon; GAC = granular activated carbon

SCAQMD HRA Limit = South Coast Air Quality Management District Health Risk Assessment permitted concentration limit in ppbv

U = not detected above reporting limit listed

PCE = Tetrachloroethene; TCE = Trichloroethene; 1,1-DCA = 1,1-Dichloroethane; 1,2-DCA = 1,2-Dichloroethane; BZ = Benzene; MeCl = Methylene chloride; VC = Vinyl chloride; CFM = Chloroform



- ◆ GCR Extraction Well
- Observation Well / Piezometer
- OU-1 On-Site Soil Remedy
- Dual Phase Extraction Well
- ~~~~~ GCR Conveyance Piping

- GWTP Compound Location
  - Former Omega Chemical Property Boundary
  - OU-1 Boundary
- Only piezometric data are collected from PZ-3 for GCR performance monitoring.

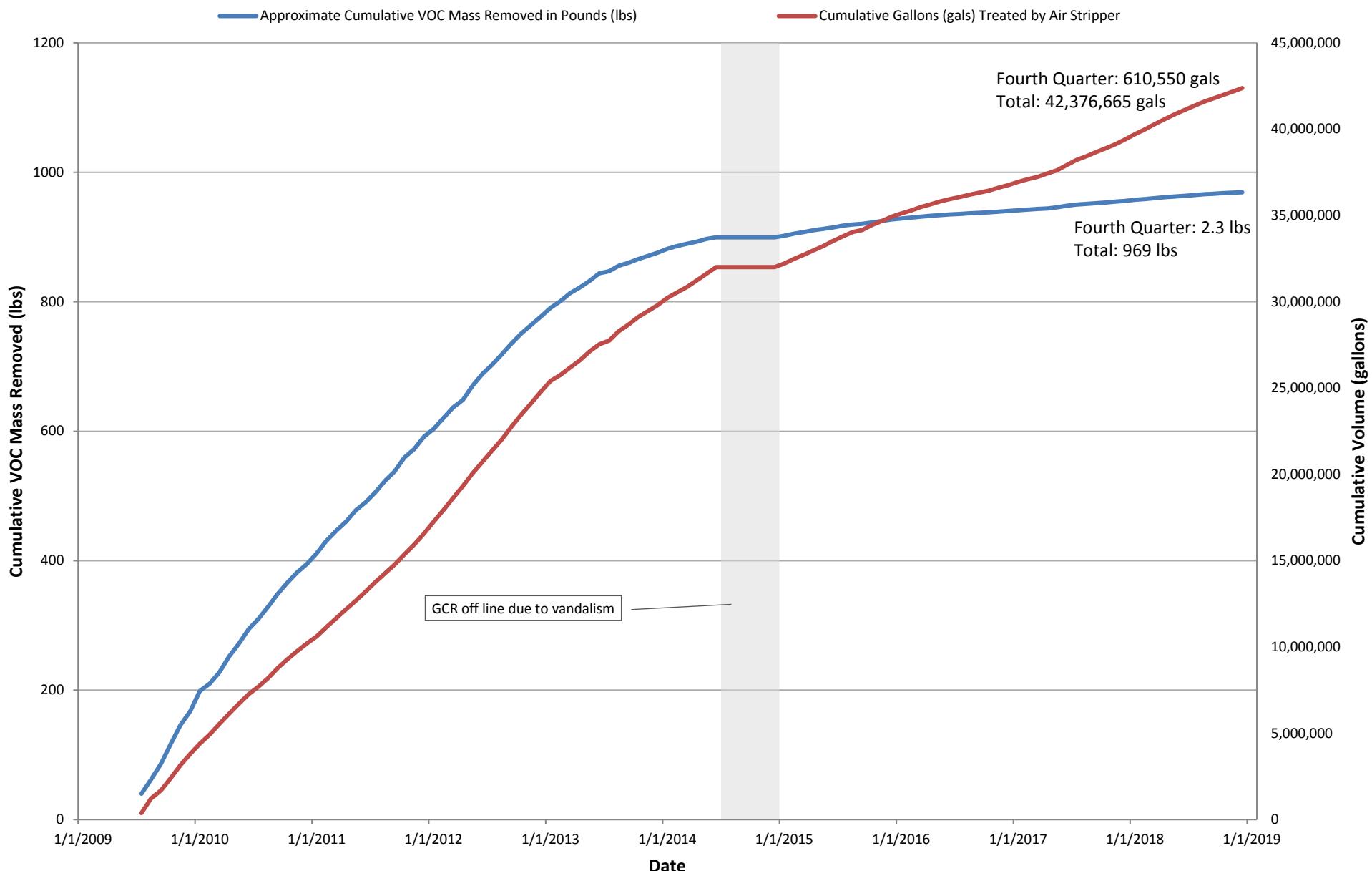


Reviewed By: MH  
Drawn By: LEM  
Date: 8/2/2018

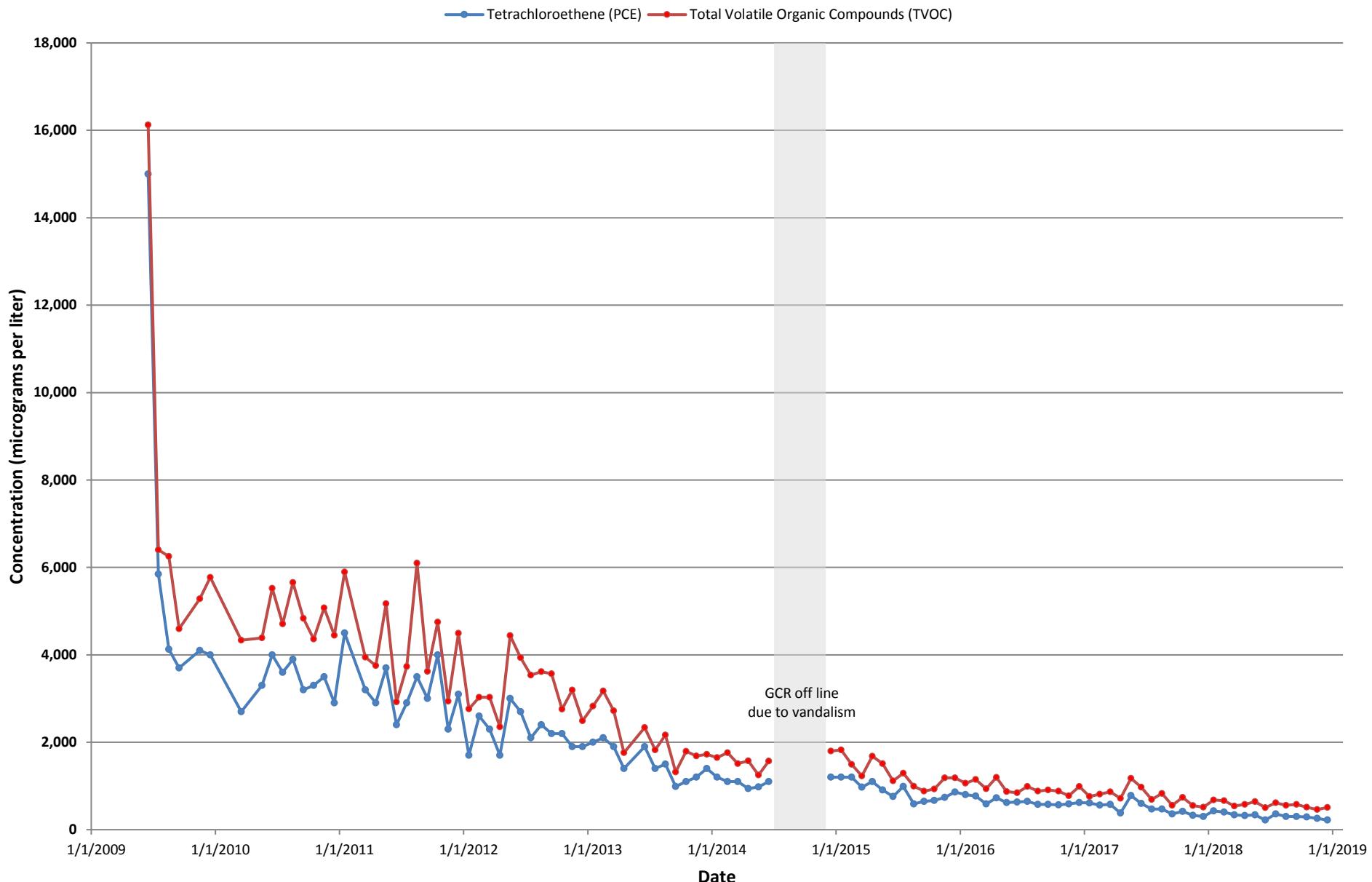
**Figure 1**  
**OU-1 Location Map and**  
**Groundwater Containment Remedy Location**  
**OU-1 Groundwater Containment Remedy,**  
**Omega Chemical Superfund Site**  
**12504/12512 East Whittier Boulevard**  
**Whittier, California**



**Figure 2**  
**GCR GWTP Cumulative Gallons Treated and Mass Removed**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**Fourth Quarter 2018**



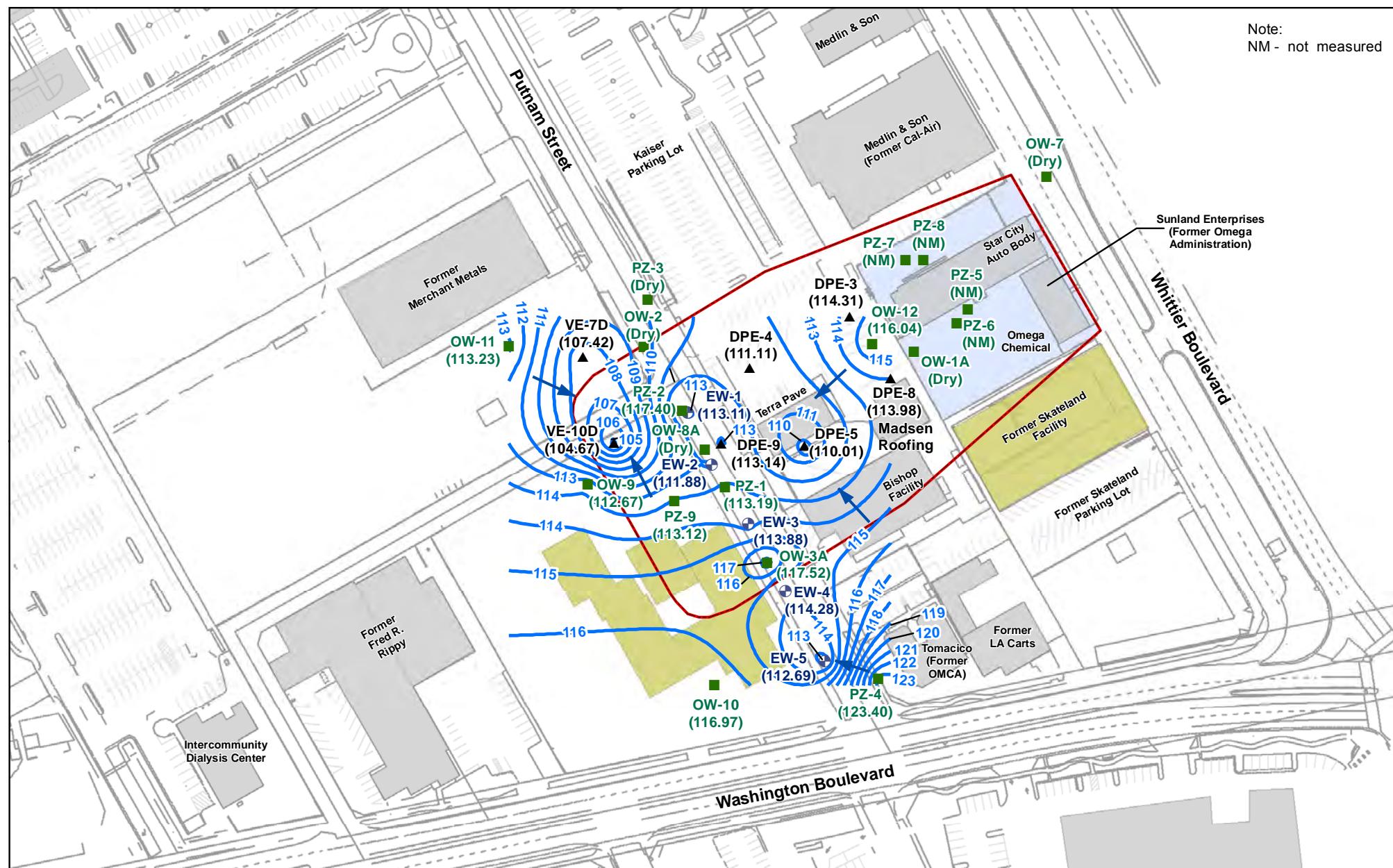
**Figure 3**  
**GCR Air Stripper Influent Concentrations**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**Fourth Quarter 2018**



## **ATTACHMENT A**

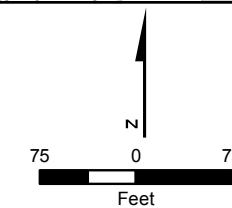
# **Quarterly Groundwater Containment Review**

Note:  
NM - not measured



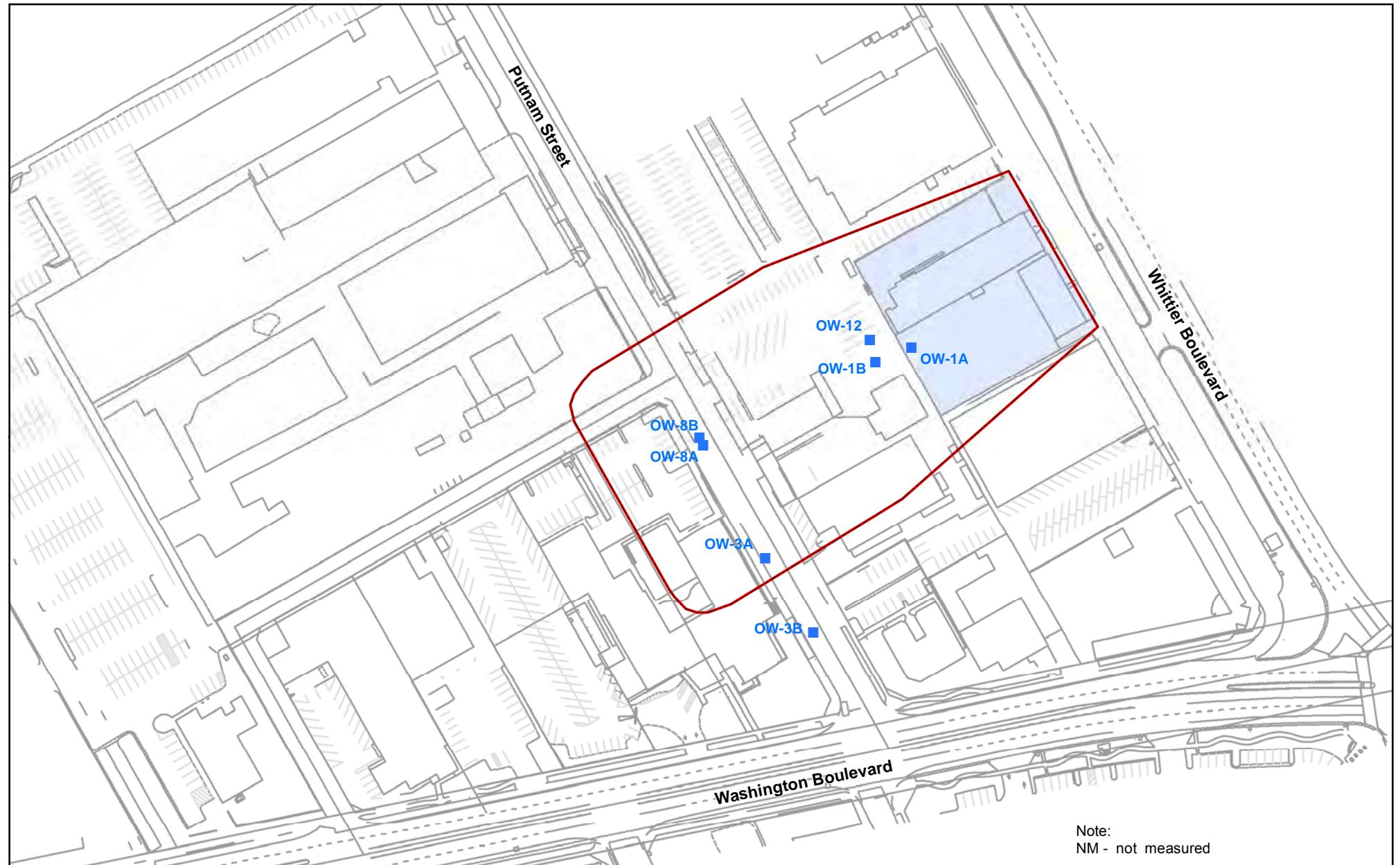
#### Legend

- Phase Ia Area
- Former Omega Chemical Property
- Existing Building
- Former Building
- Groundwater Elevation Contour - Dashed where Inferred (Feet above mean sea level)
- Groundwater Flow Direction
- Extraction Well
- Shallow Observation Well / Piezometer
- Dual Phase Extraction Well Location



**Omega Chemical**  
**Shallow Zone**  
**Groundwater Contour Map**  
November 16, 2018

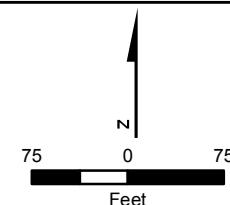
Figure A-1

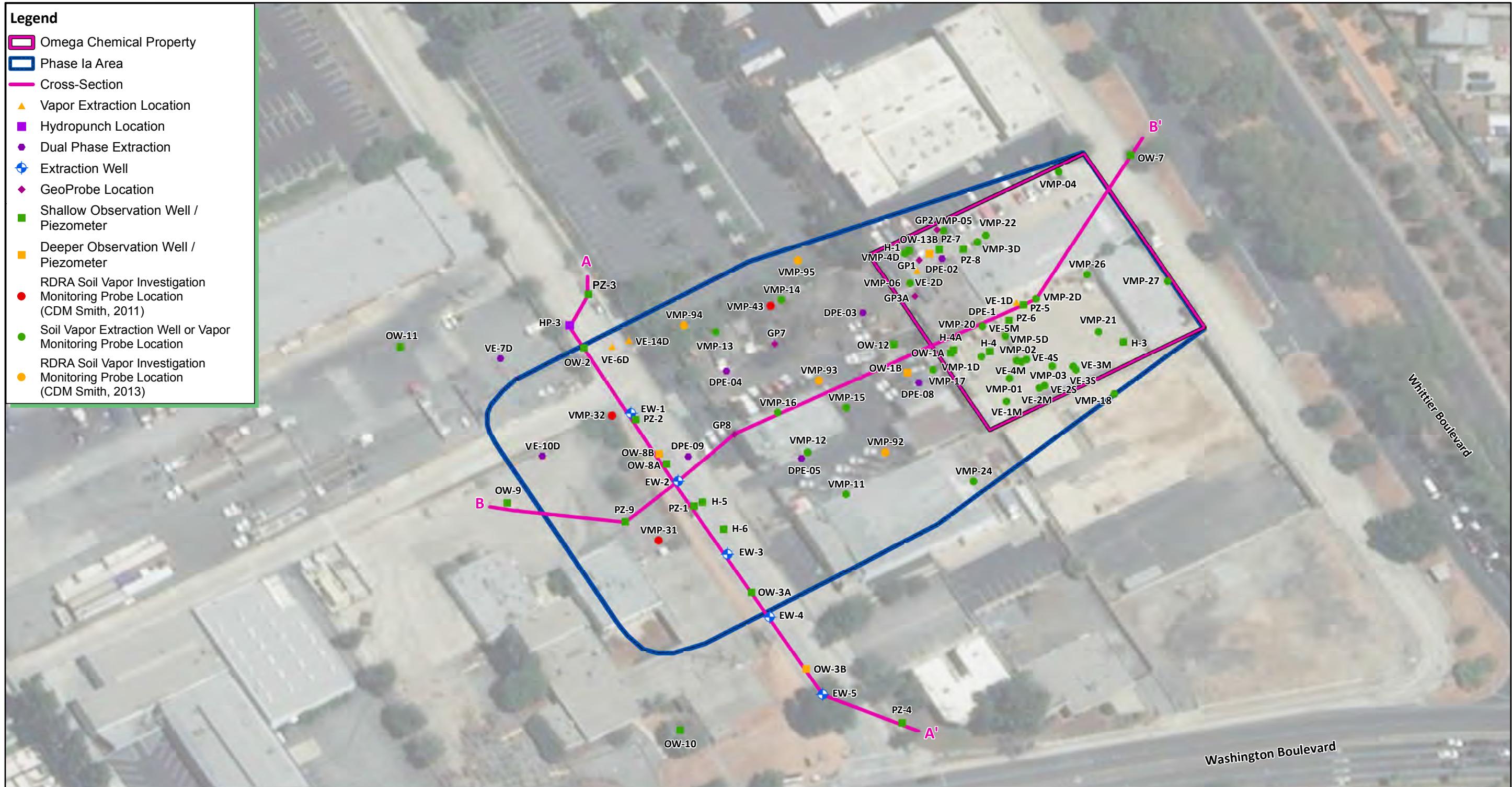


**Legend**

- Phase Ia Area
- Former Omega Chemical Property
- Observation Well Pair (A-zone/B-zone)

**Omega Chemical**  
A-zone/B-zone Well Pairs

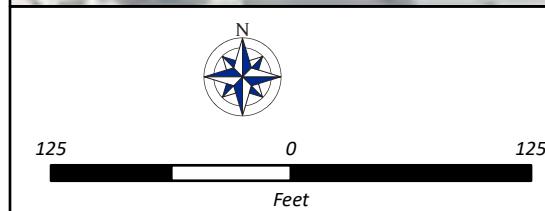


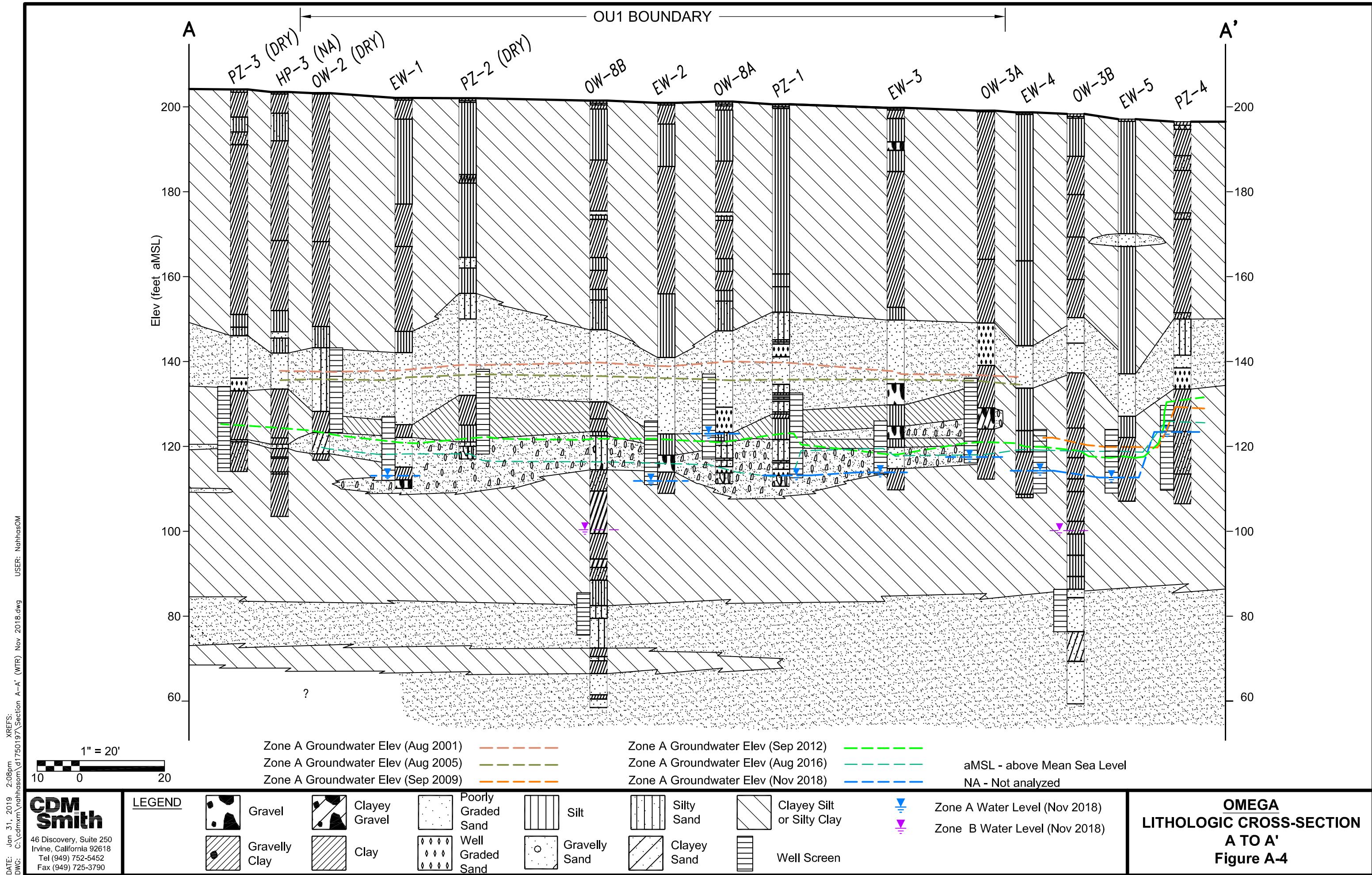


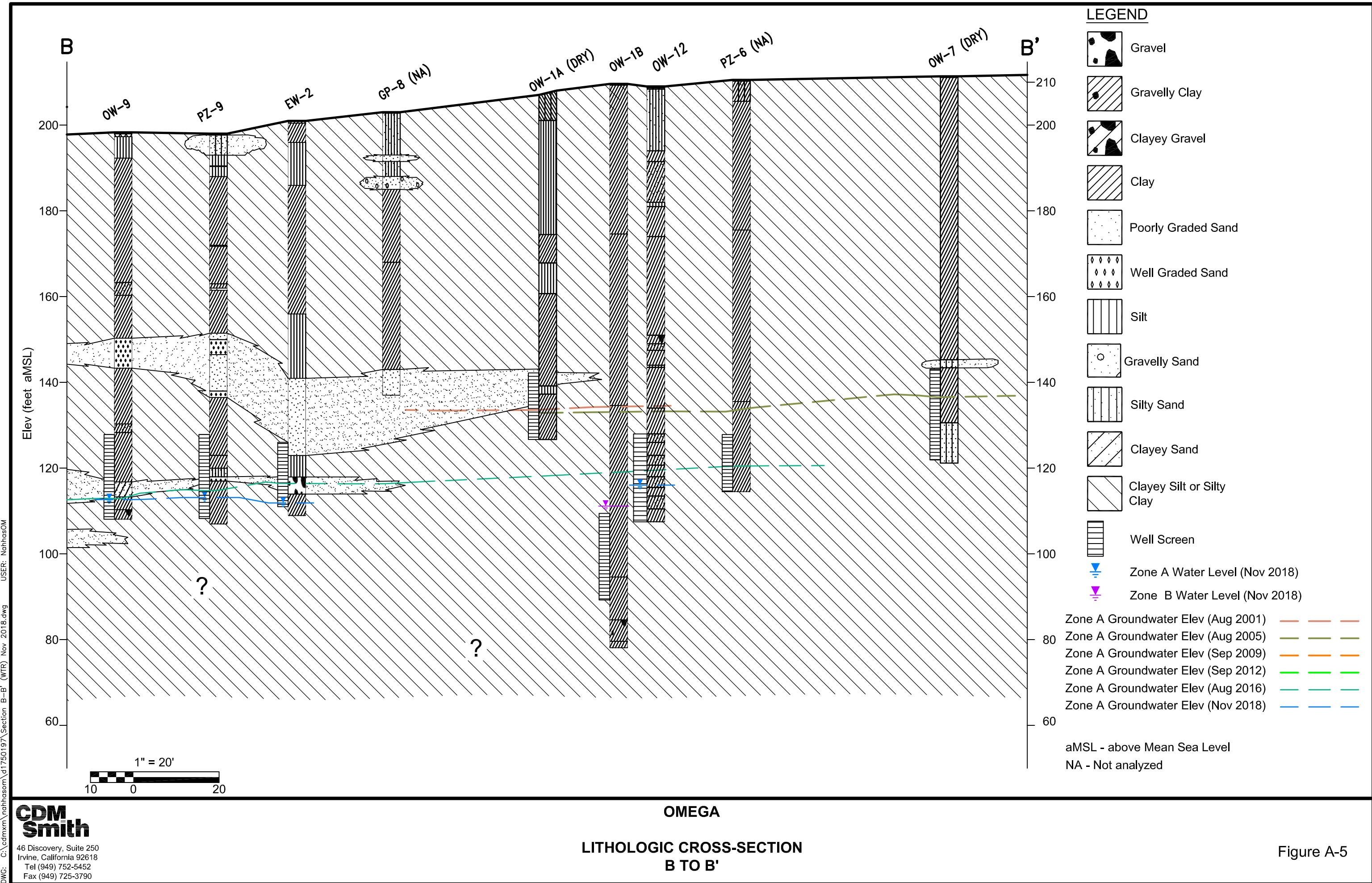
Omega Chemical

Cross-Section Plan View  
Figure A-3

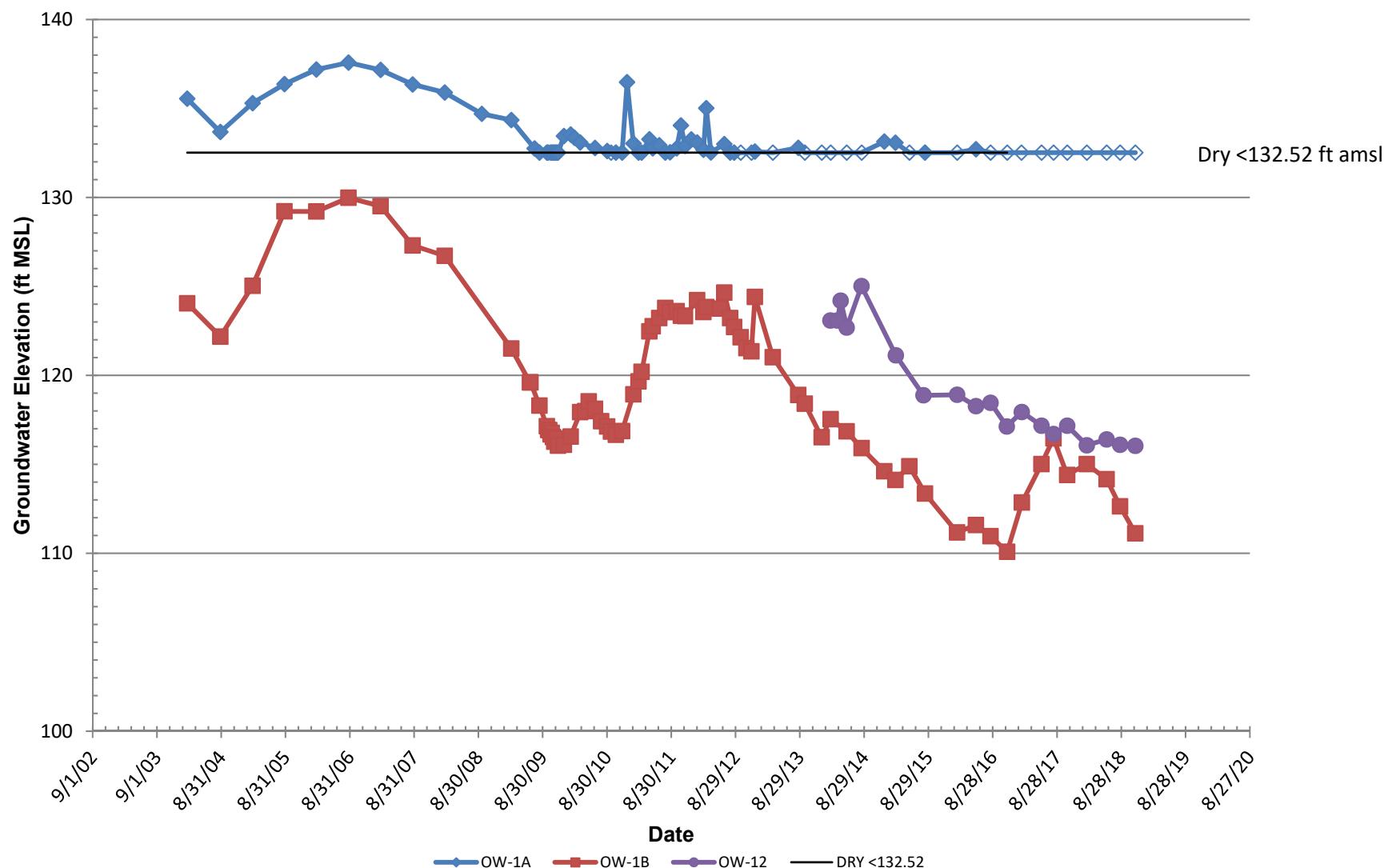
**CDM  
Smith**



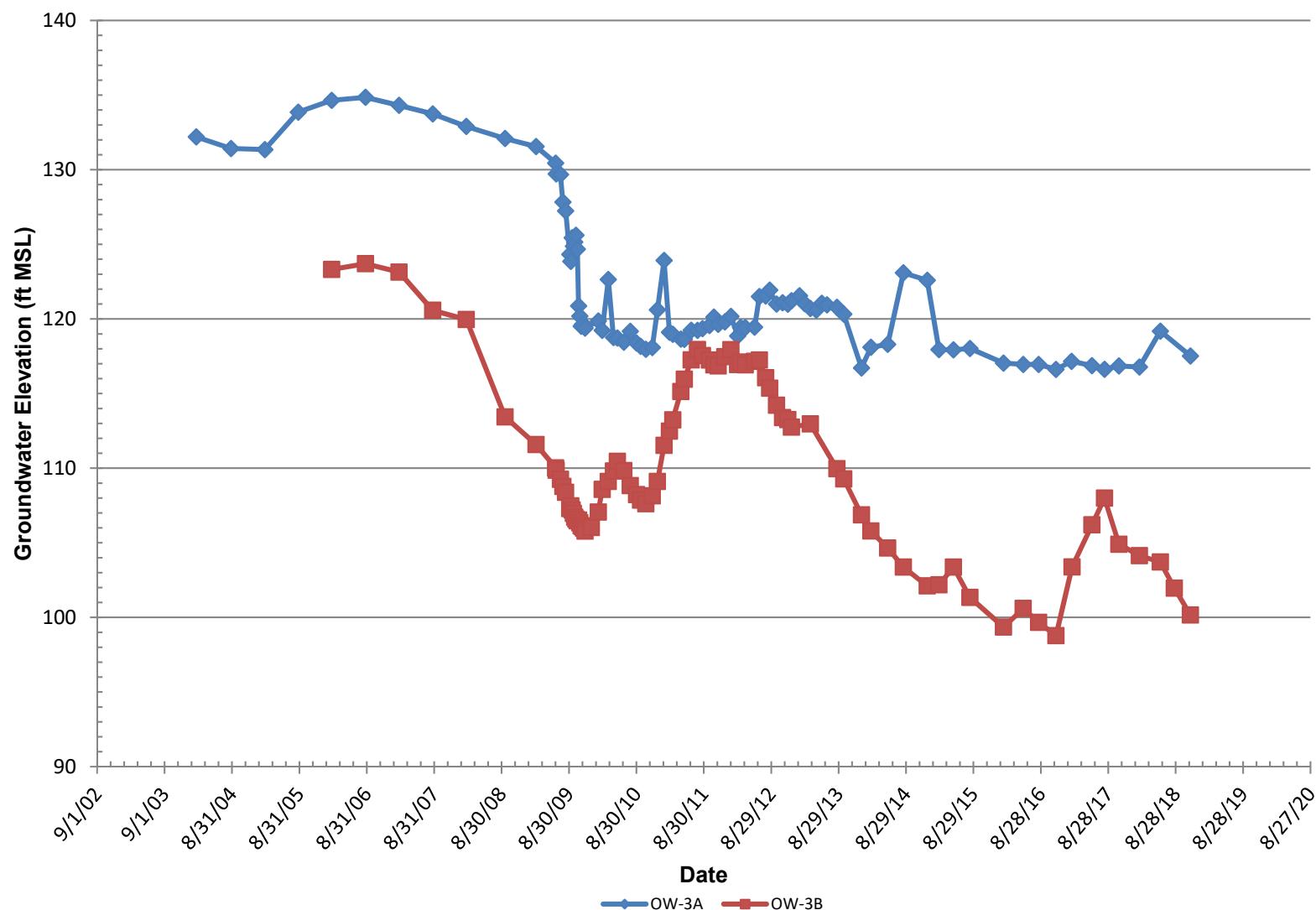




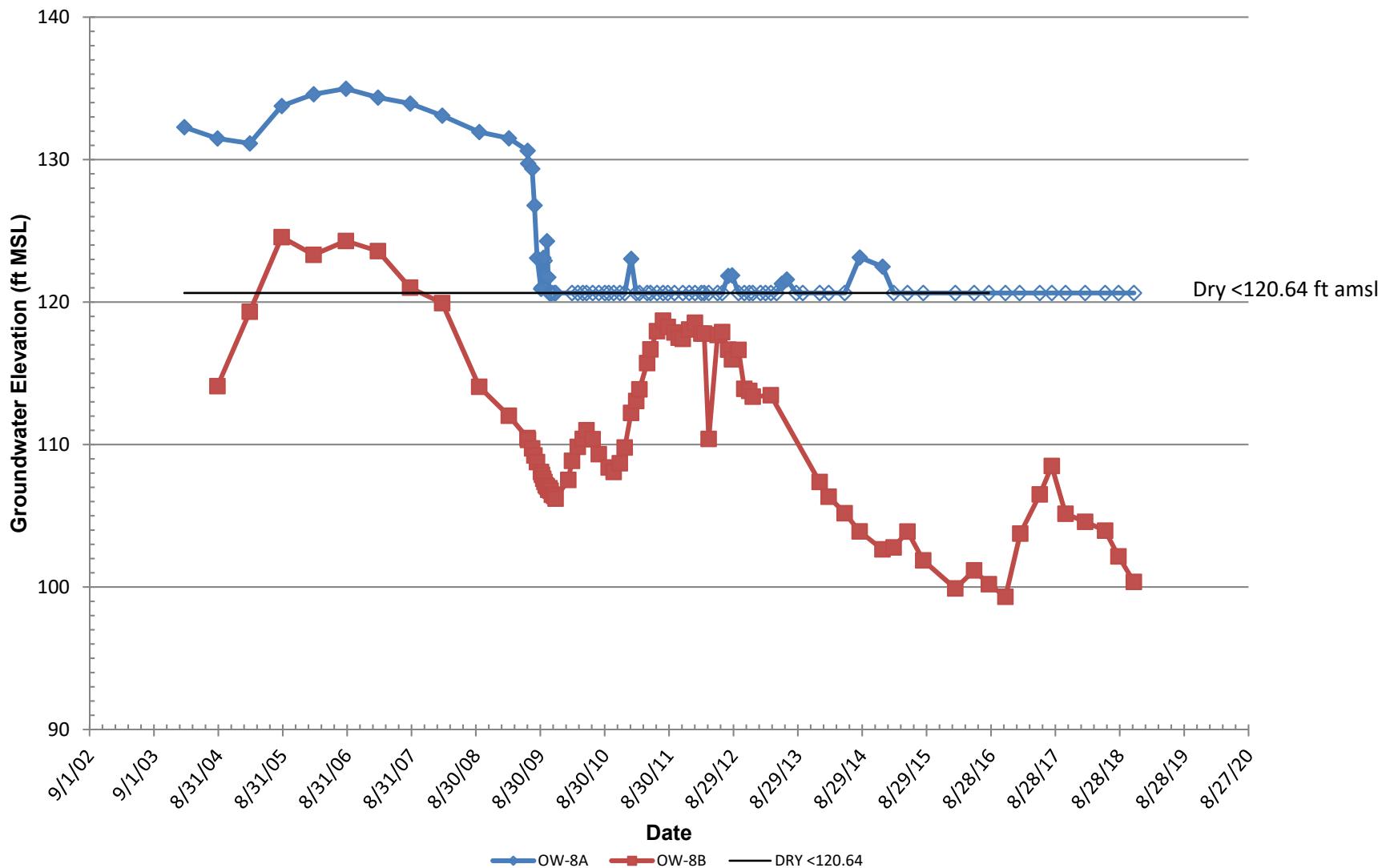
**Figure A-6**  
**Omega Chemical Superfund Site**  
**OW-1A, OW-1B, and OW-12 Well Hydrographs**  
**2004 to 2018**



**Figure A-7**  
**Omega Chemical Superfund Site**  
**OW-3A and OW-3B Well Hydrographs**  
**2004 to 2018**



**Figure A-8**  
**Omega Chemical Superfund Site**  
**OW-8A and OW-8B Well Hydrographs**  
**2004 to 2018**



## **ATTACHMENT B**

### **PSVP Piezometric Data**

**Attachment B, Table B-1**  
**Piezometric Monitoring Data**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**Fourth Quarter 2018**

| Well No. | Top of Casing Elevation (feet MSL) | Screen Interval (feet MSL) | Date       | Depth To Water (feet btoc) | Groundwater Elevation (feet MSL) |
|----------|------------------------------------|----------------------------|------------|----------------------------|----------------------------------|
| EW-1     | 198.96                             | 114.94 - 129.94            | 11/16/2018 | 85.85                      | 113.11                           |
| EW-2     | 197.87                             | 113.77 - 128.77            | 11/16/2018 | 85.99                      | 111.88                           |
| EW-3     | 196.78                             | 114.59 - 129.59            | 11/16/2018 | 82.90                      | 113.88                           |
| EW-4     | 195.79                             | 112.73 - 127.73            | 11/16/2018 | 81.51                      | 114.28                           |
| EW-5     | 194.19                             | 111.96 - 126.96            | 11/16/2018 | 81.50                      | 112.69                           |
| PZ-1     | 200.26                             | 112.65 - 132.65            | 11/16/2018 | 87.07                      | 113.19                           |
| PZ-2     | 201.48                             | 118.02 - 138.02            | 11/16/2018 | Dry                        | Dry                              |
| PZ-3     | 203.72                             | 114.40 - 134.40            | 11/16/2018 | Dry                        | Dry                              |
| PZ-4     | 196.26                             | 106.66 - 126.66            | 11/16/2018 | 72.86                      | 123.40                           |
| OW1A     | 212.53                             | 132.47 - 147.47            | 11/16/2018 | Dry                        | Dry                              |
| OW1B     | 207.22                             | 87.42 - 97.42              | 11/16/2018 | 96.10                      | 111.12                           |
| OW2      | 202.33                             | 123.23 - 143.23            | 11/16/2018 | Dry                        | Dry                              |
| OW3A     | 198.58                             | 116.13 - 136.13            | 11/16/2018 | 81.06                      | 117.52                           |
| OW3B     | 197.38                             | 75.79 - 85.79              | 11/16/2018 | 97.22                      | 100.16                           |
| OW7      | 214.29                             | 124.69 - 144.69            | 11/16/2018 | Dry                        | Dry                              |
| OW8A     | 200.66                             | 121.33 - 140.93            | 11/16/2018 | 77.64                      | 123.02                           |
| OW8B     | 200.84                             | 75.39 - 85.39              | 11/16/2018 | 100.48                     | 100.36                           |
| OW9      | 198.07                             | 108.42 - 128.42            | 11/16/2018 | 85.40                      | 112.67                           |
| OW10     | 195.54                             | 106.46 - 126.46            | 11/16/2018 | 78.57                      | 116.97                           |
| OW12     | 208.42                             | 108.97 - 128.97            | 11/16/2018 | 92.38                      | 116.04                           |

Notes:

Elevation data per California Coordinate System NADV88

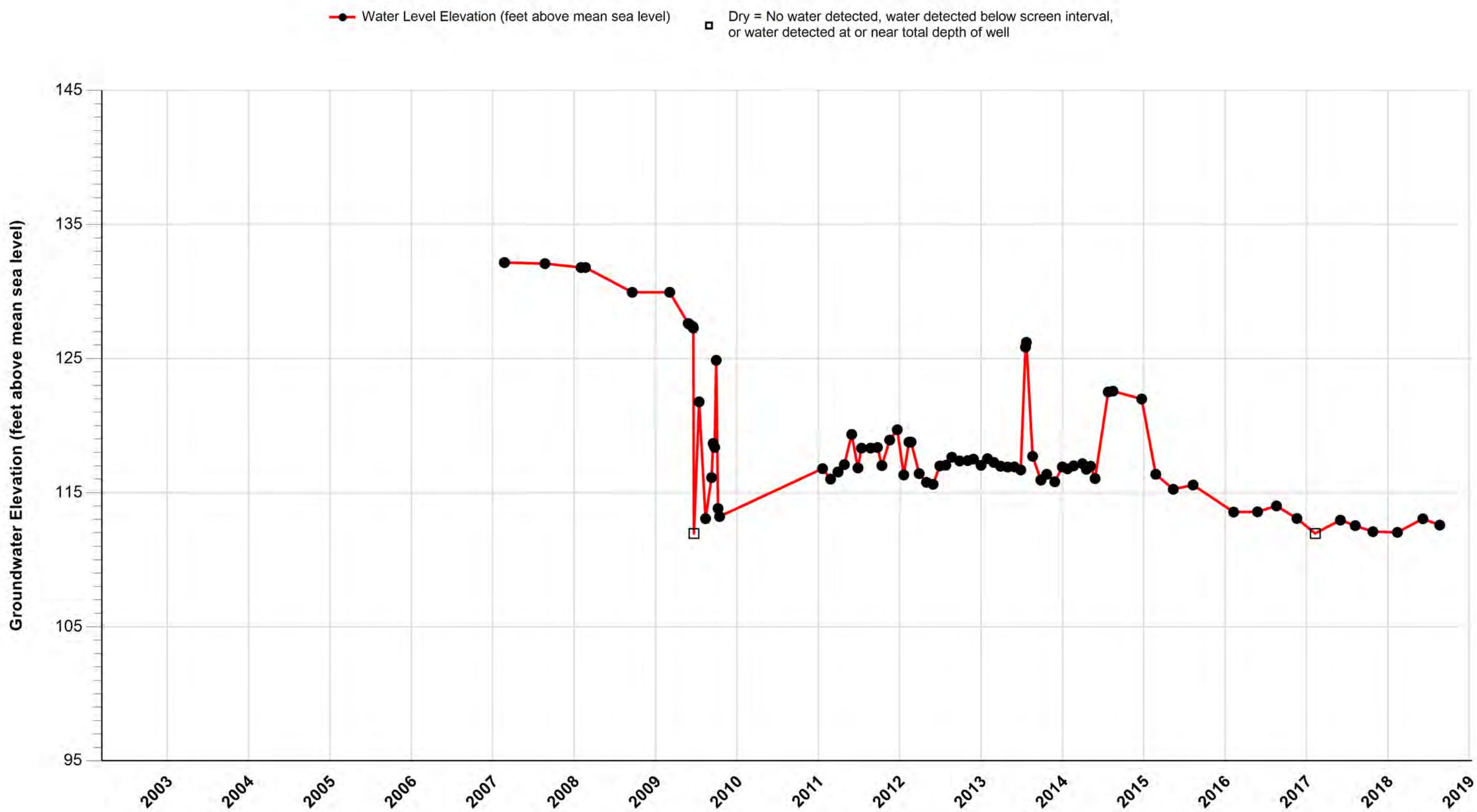
btoc = below top of casing

Dry = No water detected, water detected below the screen interval, or water detected at or near total depth of well

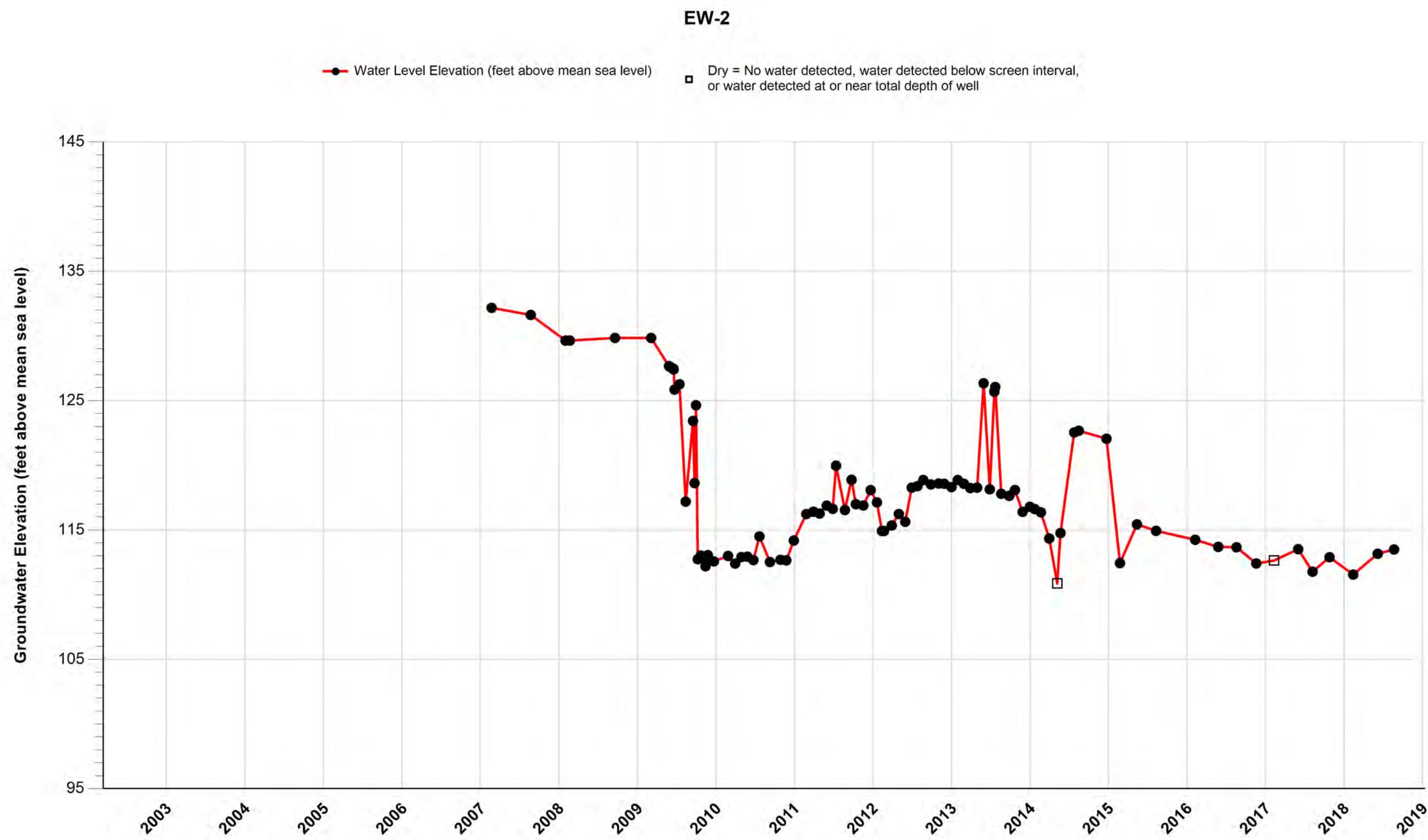
MSL = mean sea level

**Attachment B, Figure B-1**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**

**EW-1**

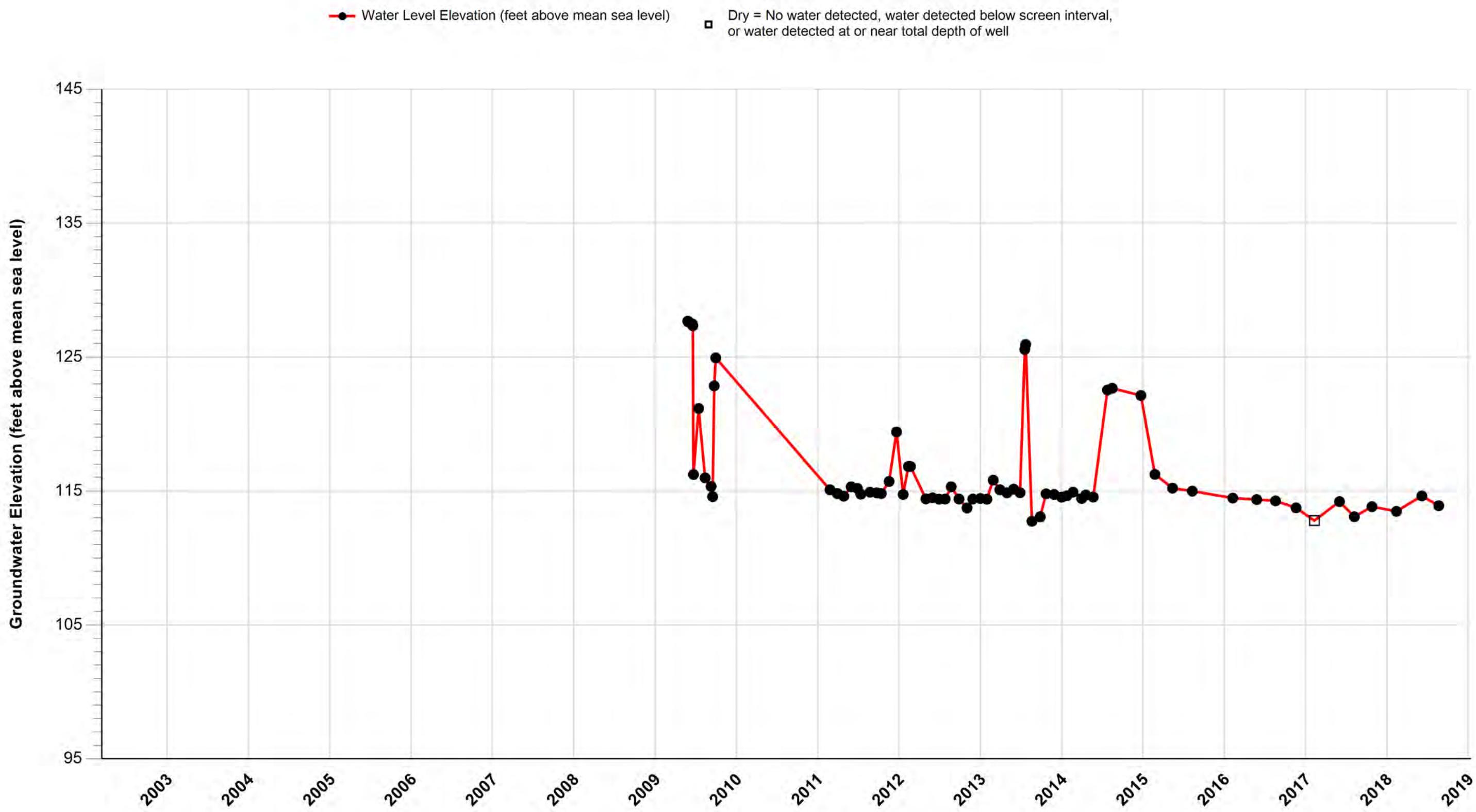


**Attachment B, Figure B-2**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**



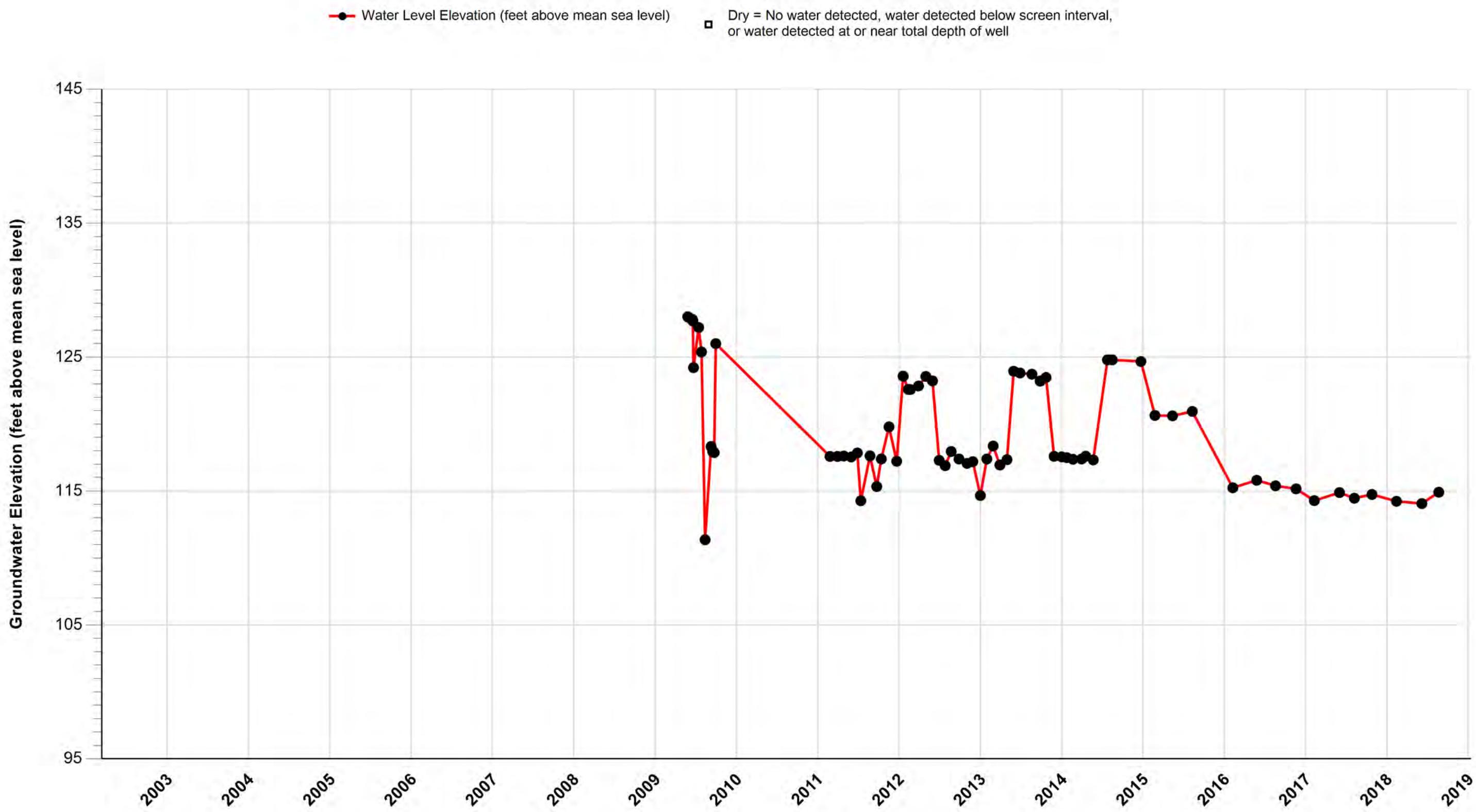
**Attachment B, Figure B-3**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**

**EW-3**

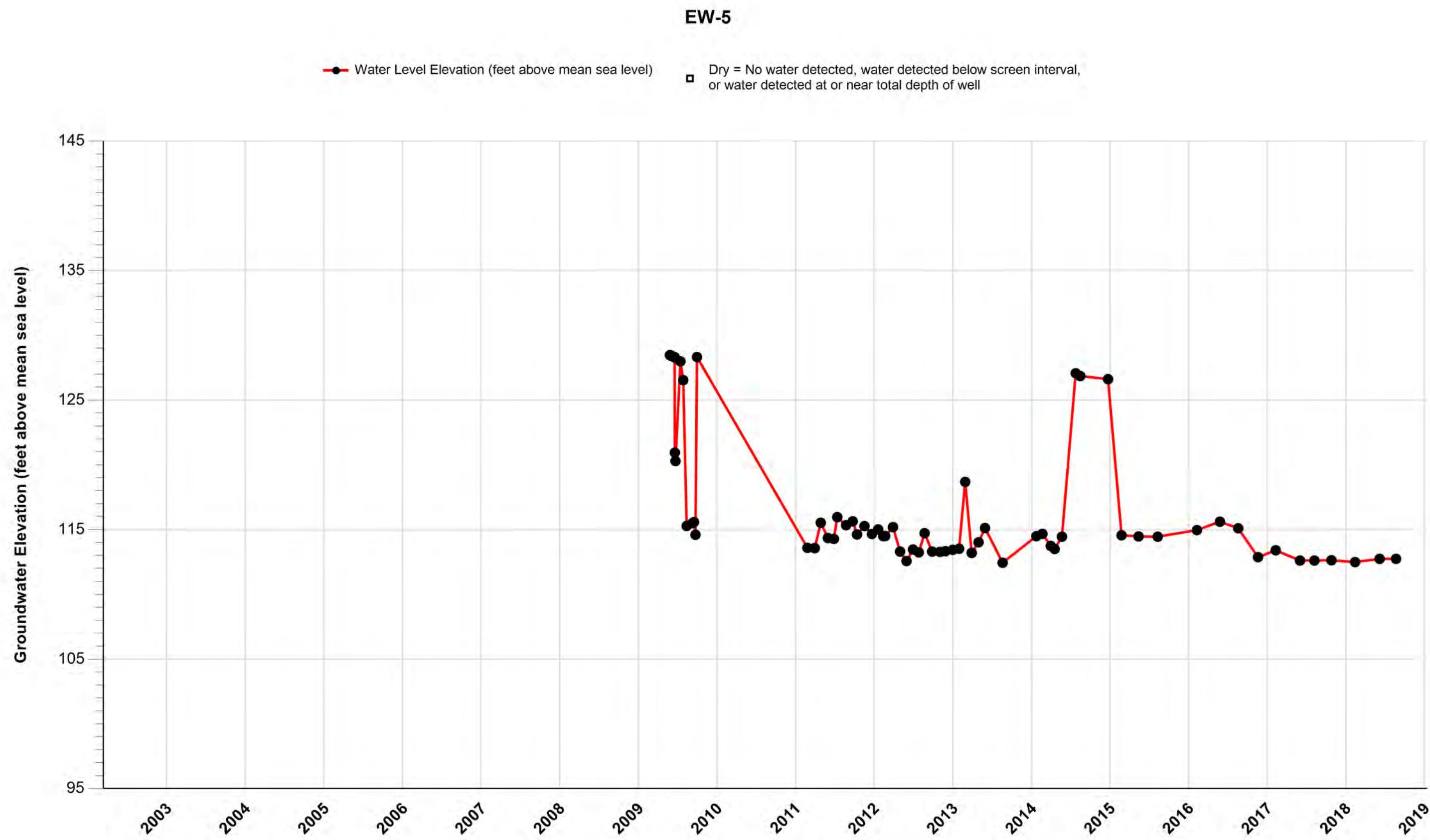


**Attachment B, Figure B-4**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**

**EW-4**

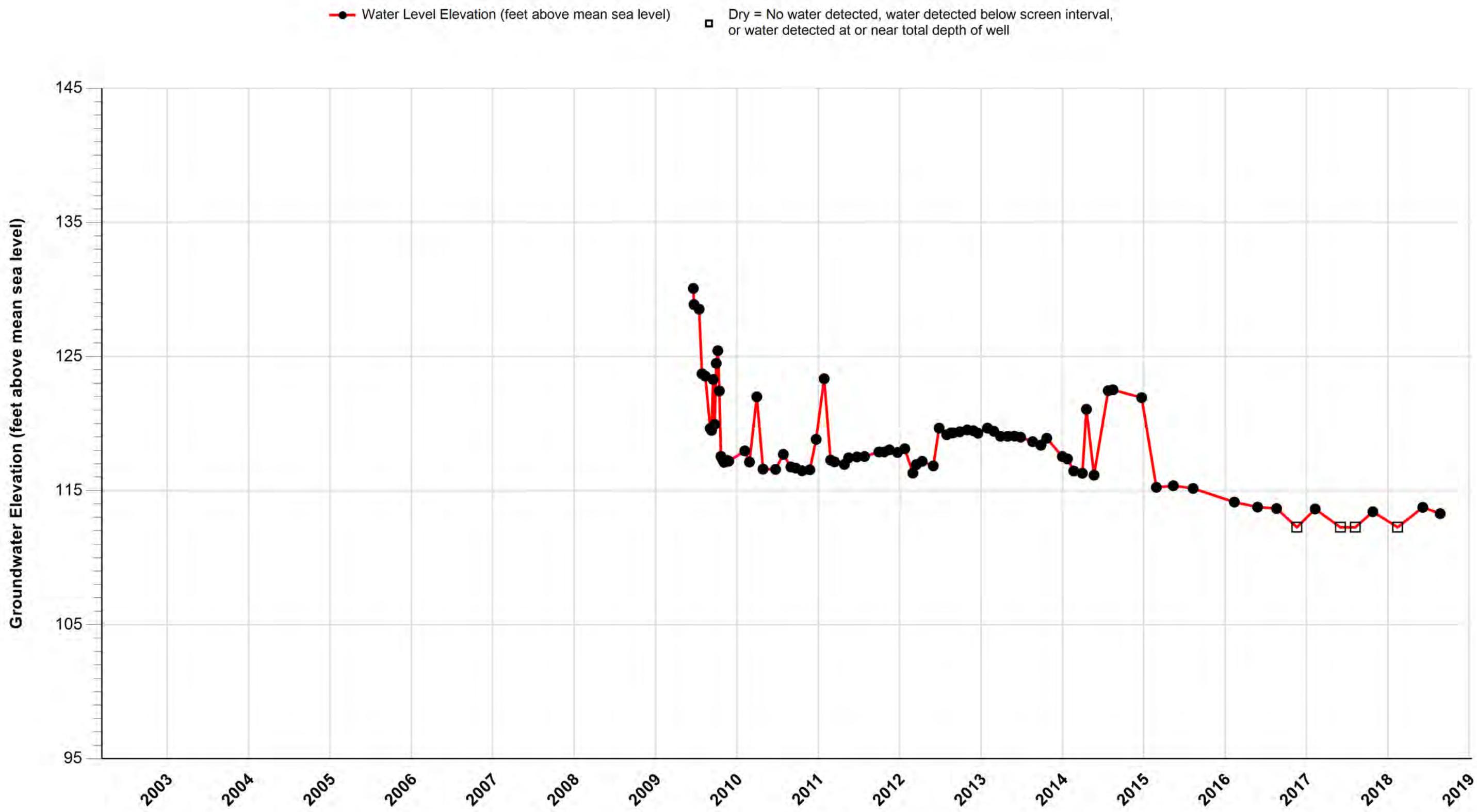


**Attachment B, Figure B-5**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**



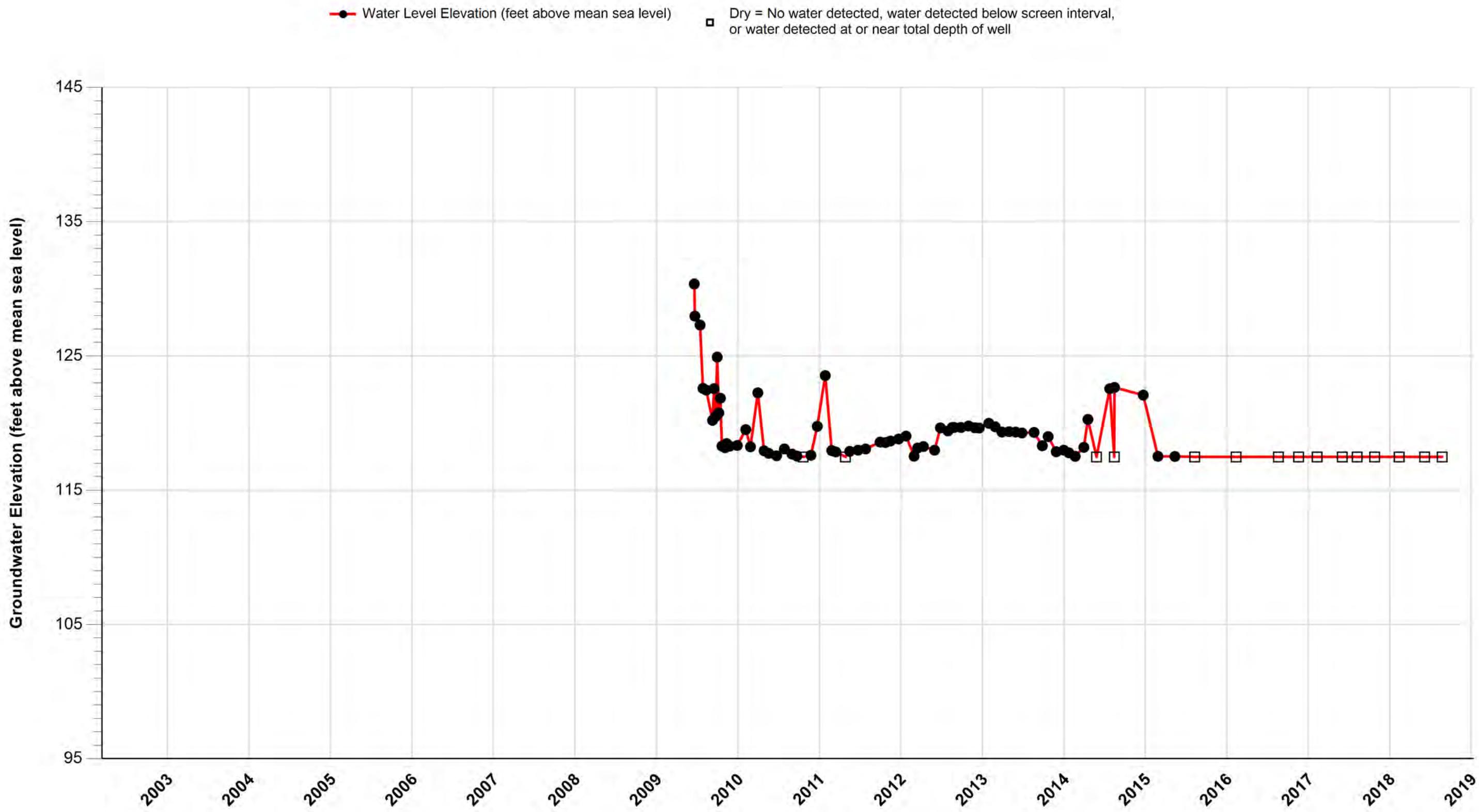
**Attachment B, Figure B-6**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**

**PZ-1**



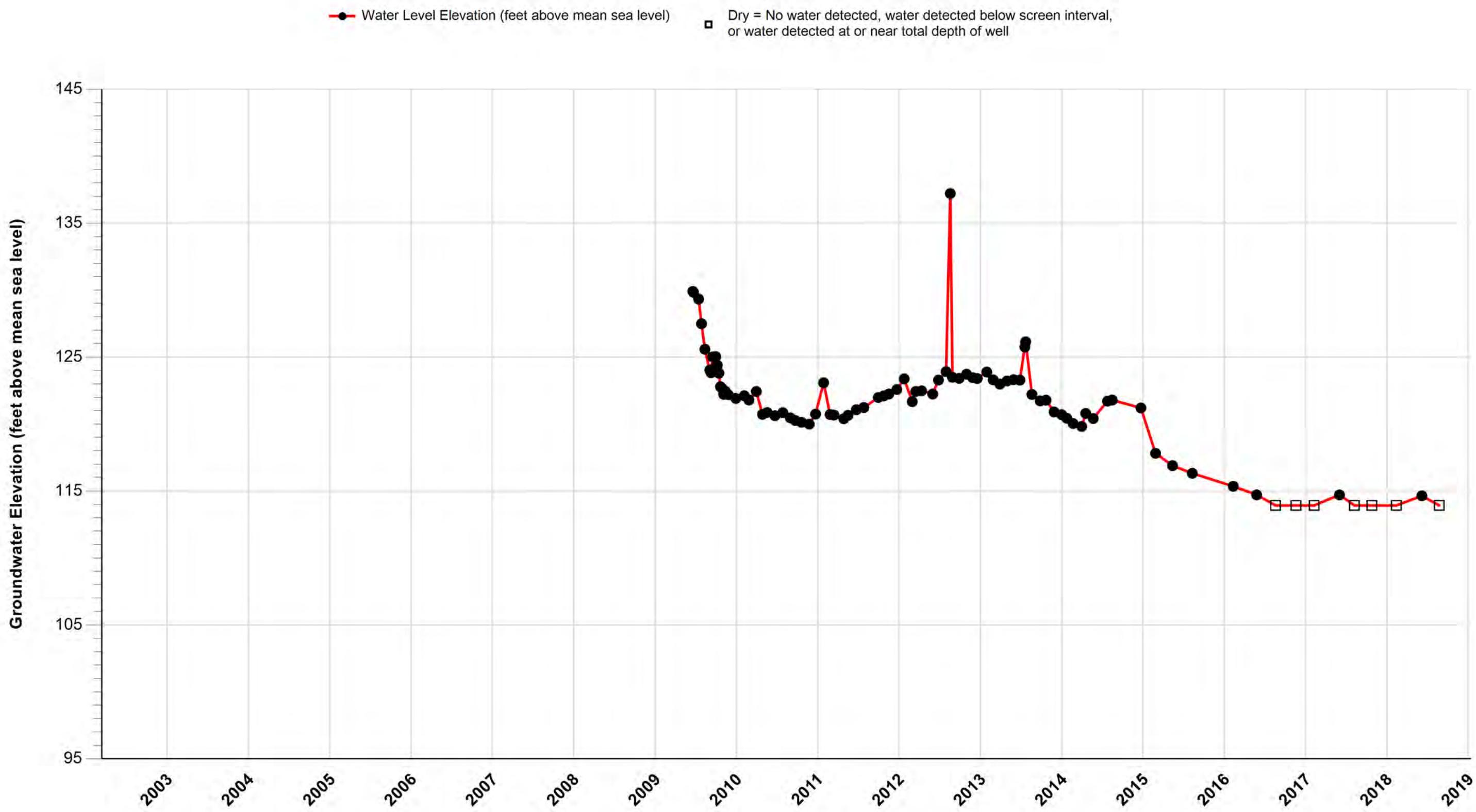
**Attachment B, Figure B-7**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**

**PZ-2**



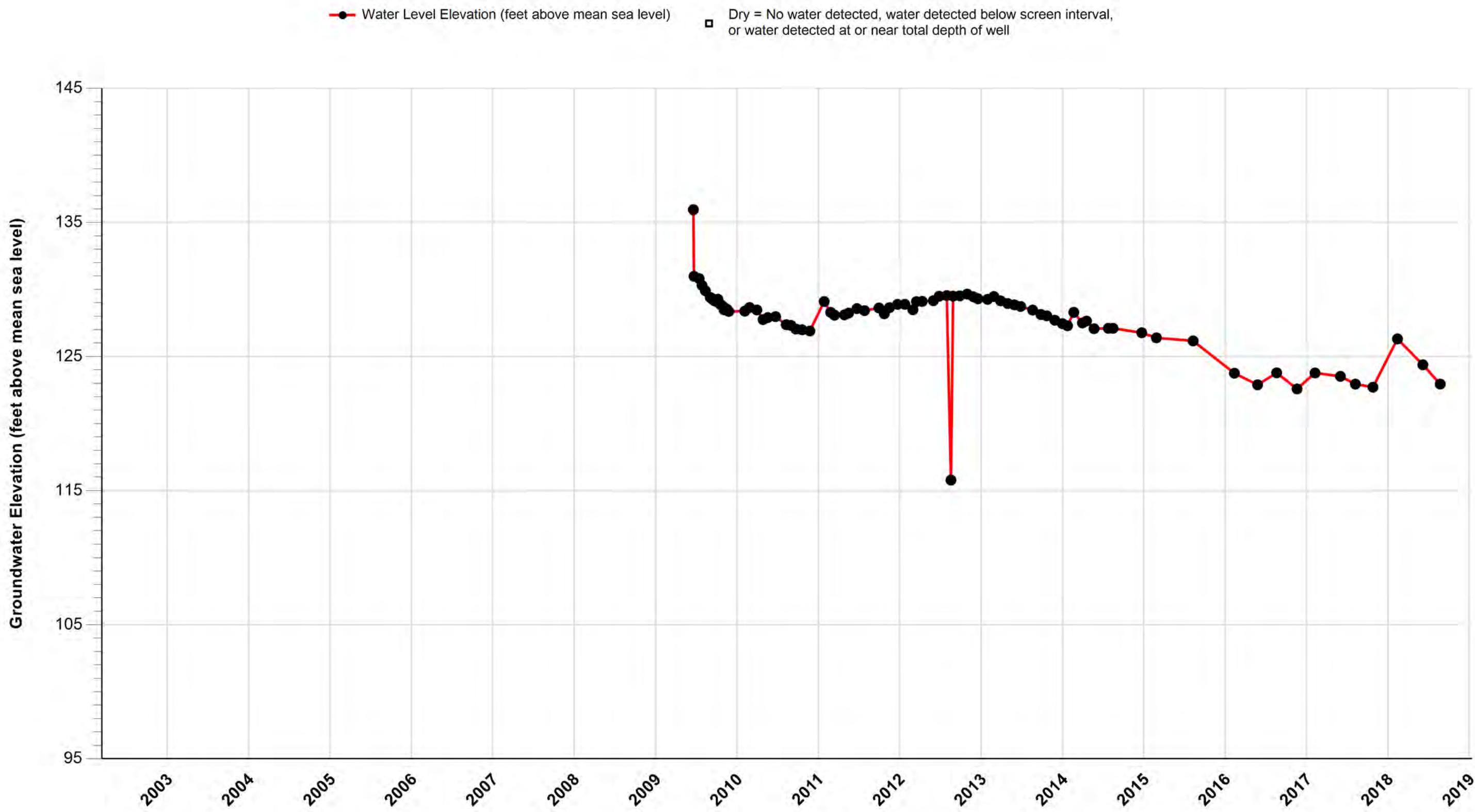
**Attachment B, Figure B-8**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**

**PZ-3**

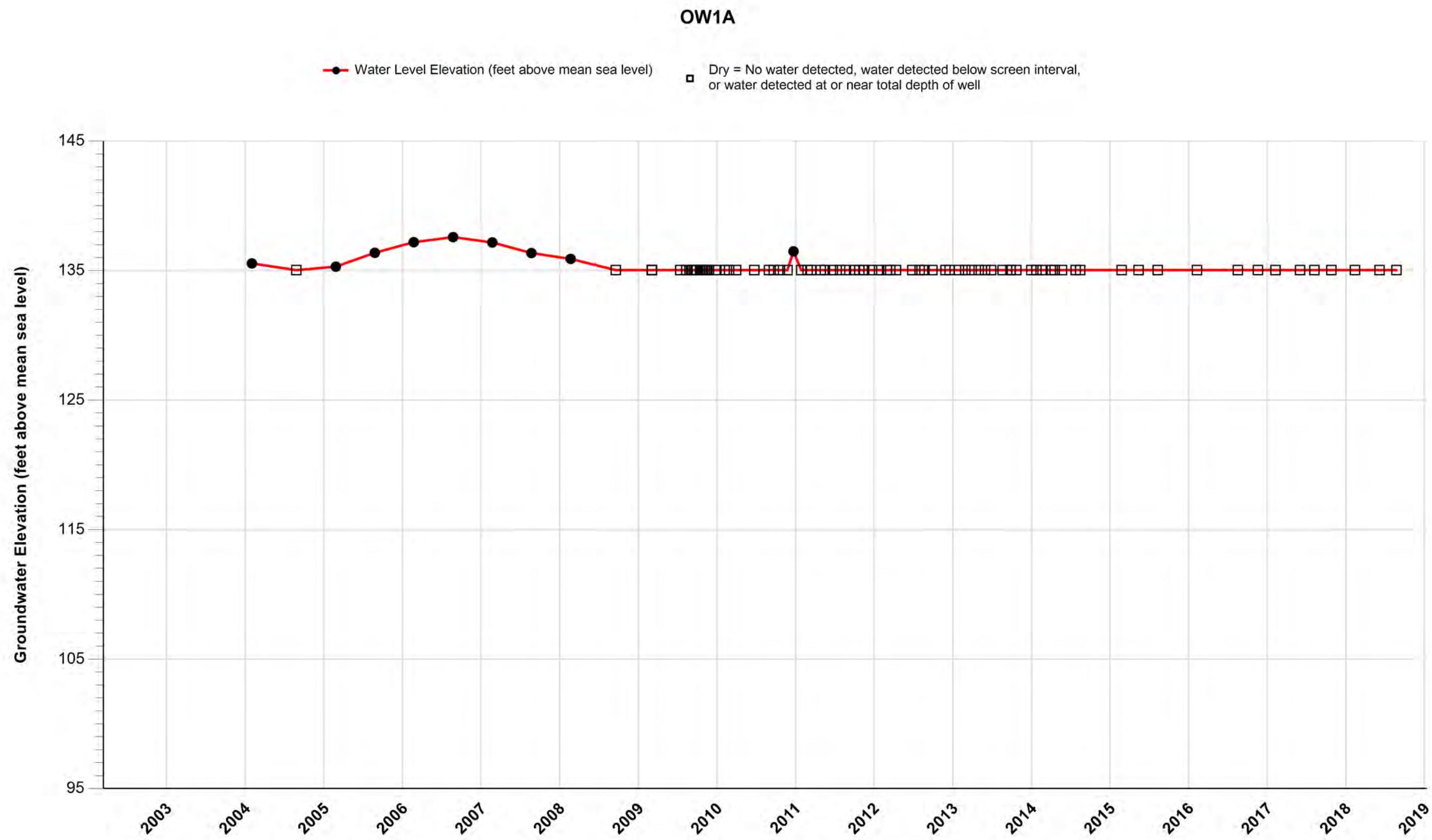


Attachment B, Figure B-9  
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site  
PSVP Piezometric Data

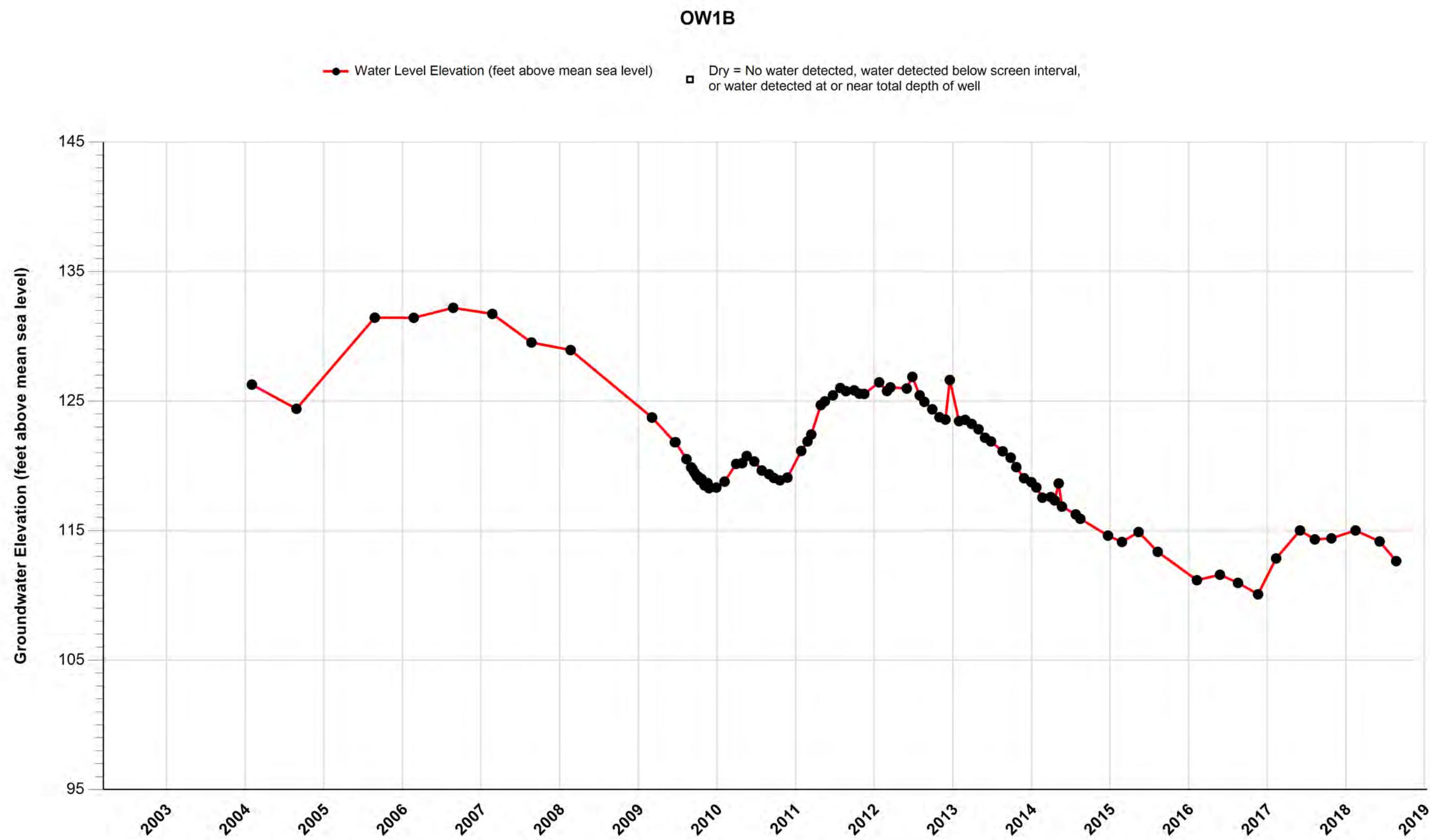
PZ-4



**Attachment B, Figure B-10**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**

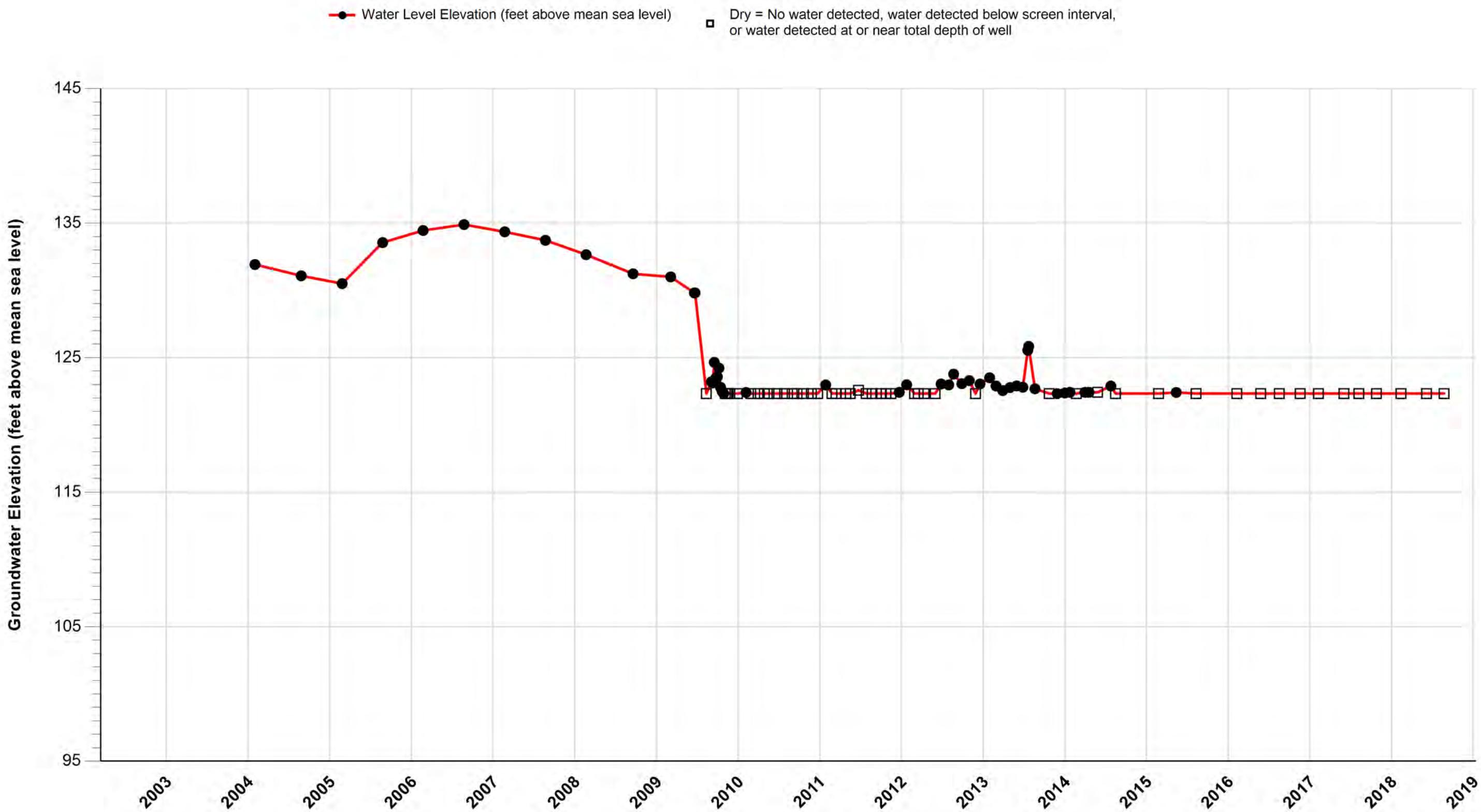


**Attachment B, Figure B-11**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**

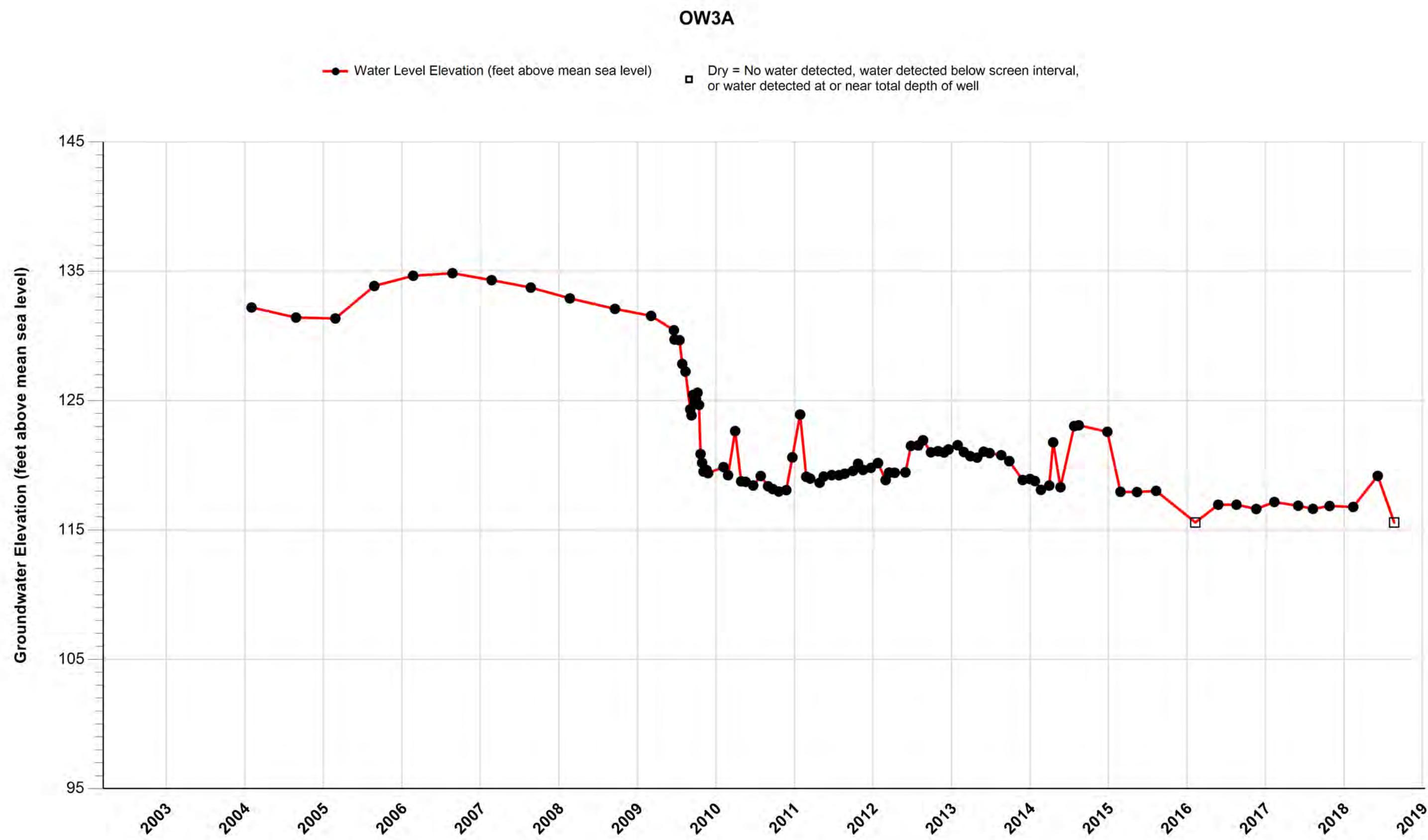


Attachment B, Figure B-12  
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site  
PSVP Piezometric Data

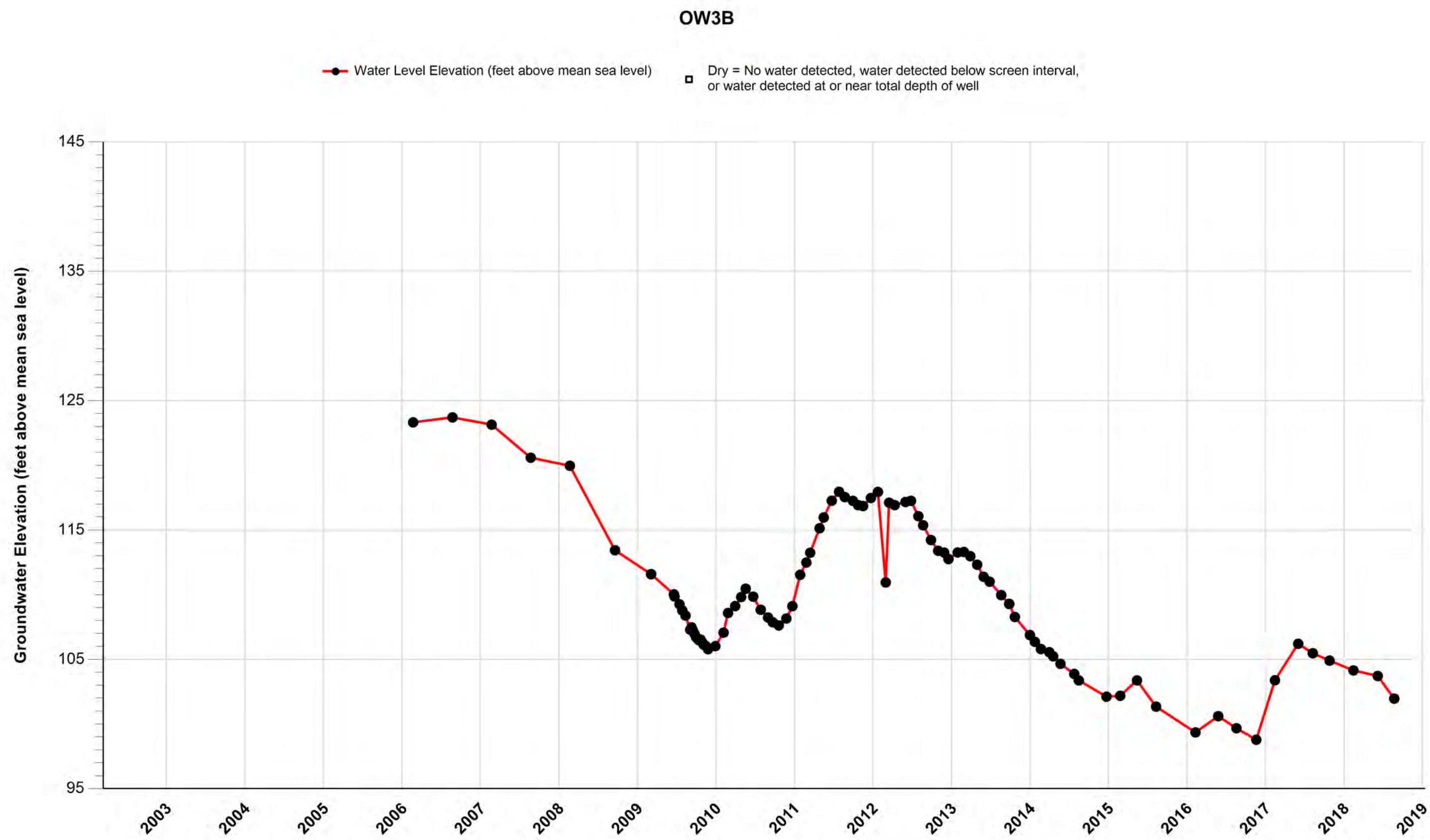
OW2



Attachment B, Figure B-13  
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site  
PSVP Piezometric Data

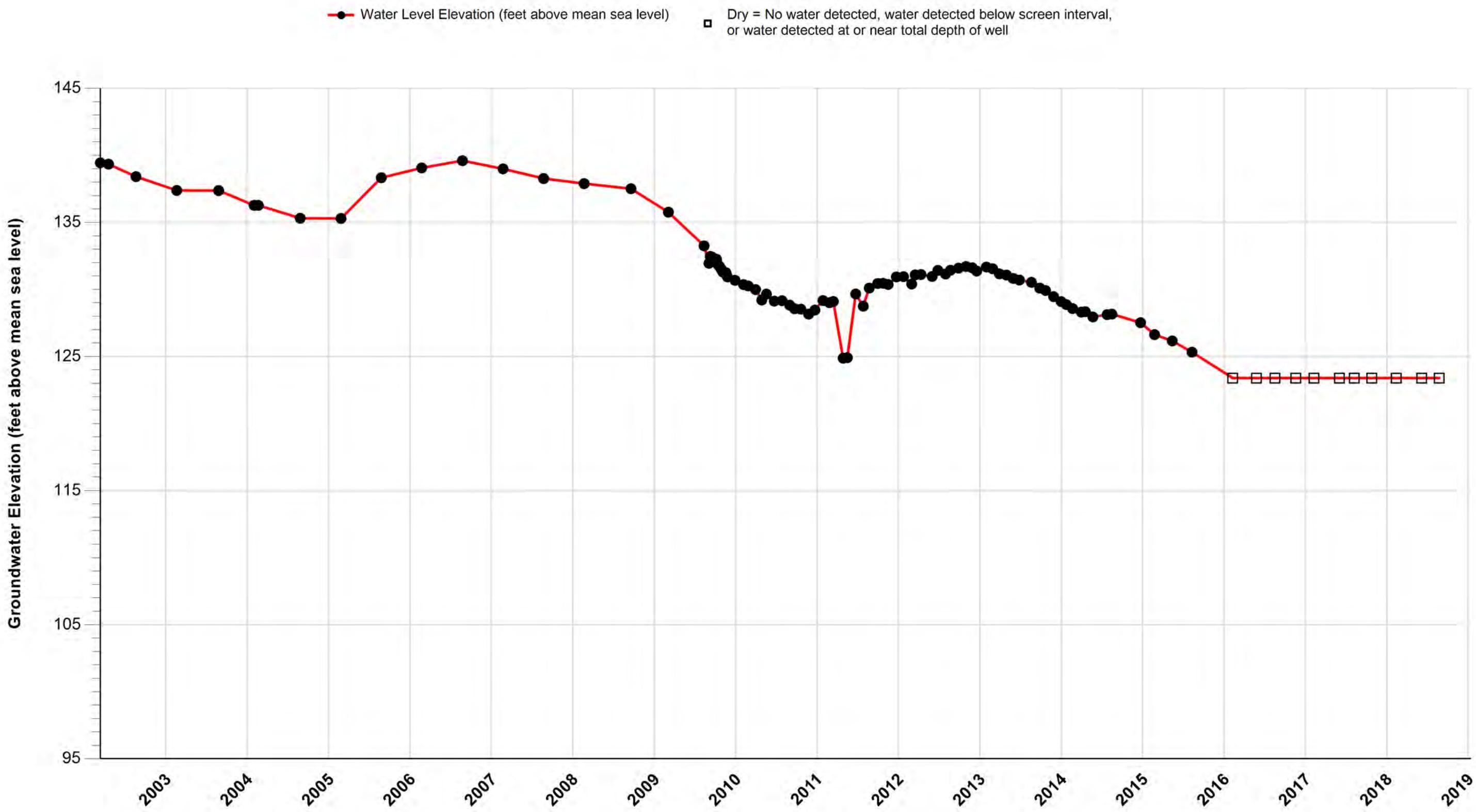


Attachment B, Figure B-14  
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site  
PSVP Piezometric Data

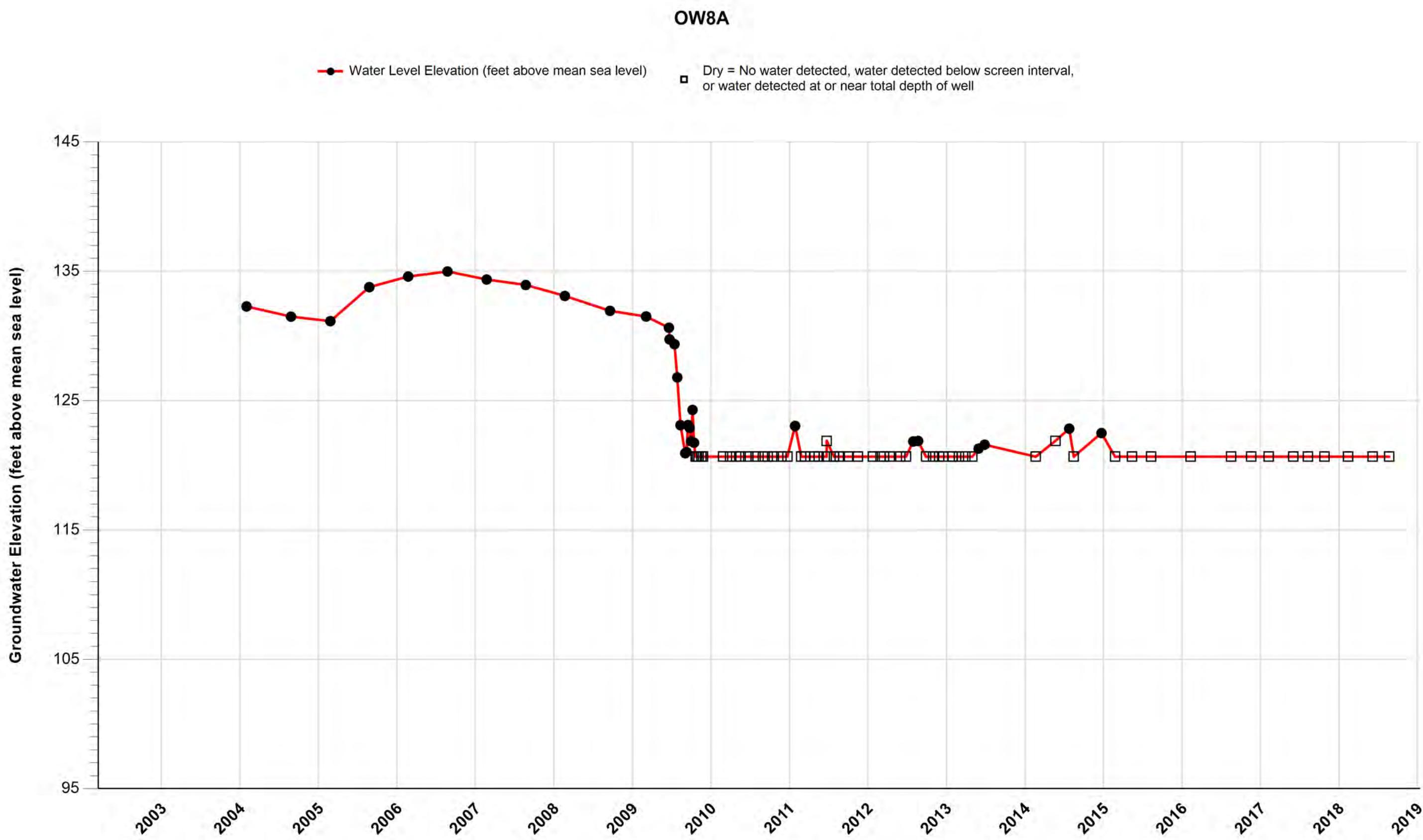


Attachment B, Figure B-15  
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site  
PSVP Piezometric Data

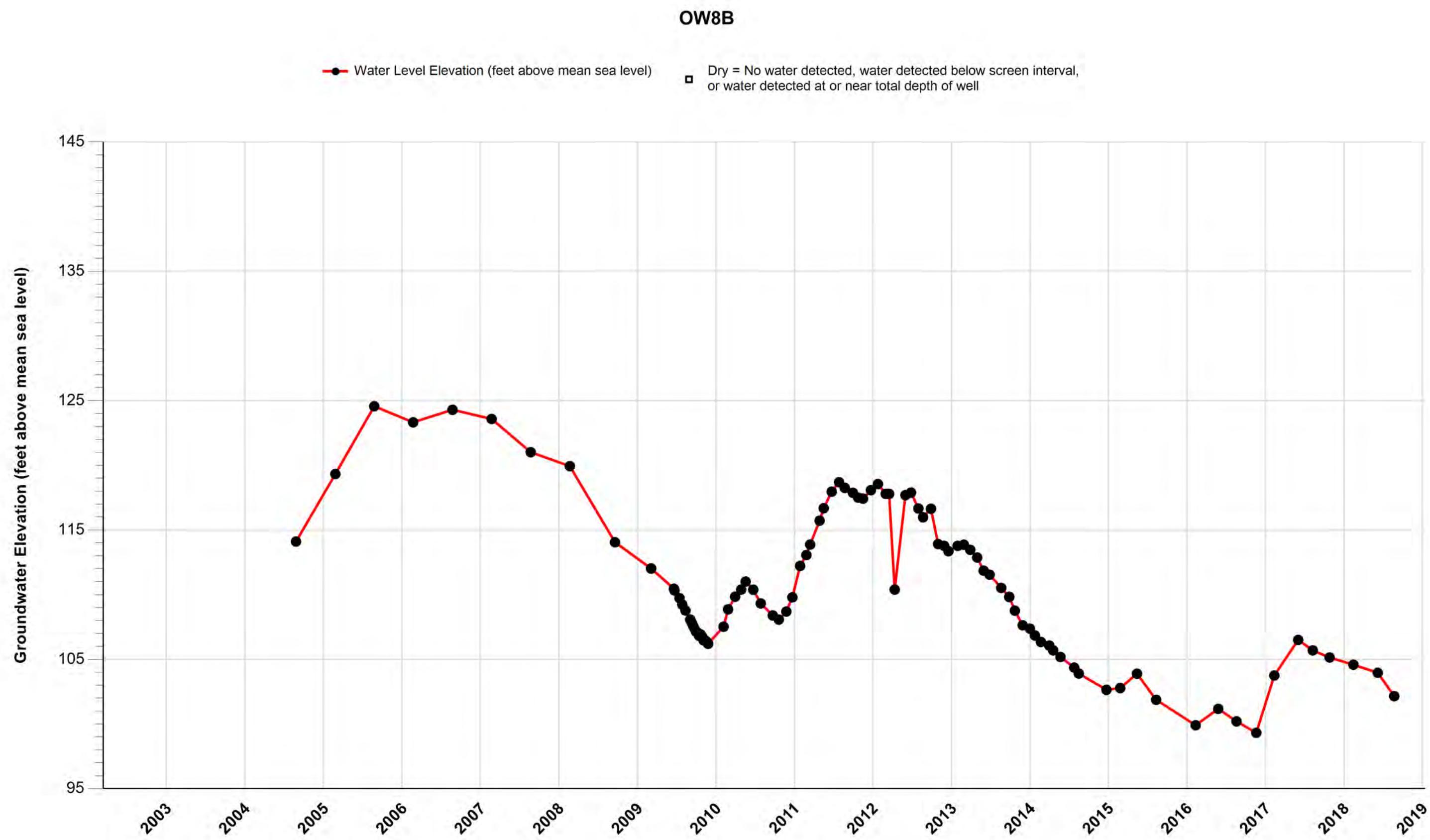
OW7



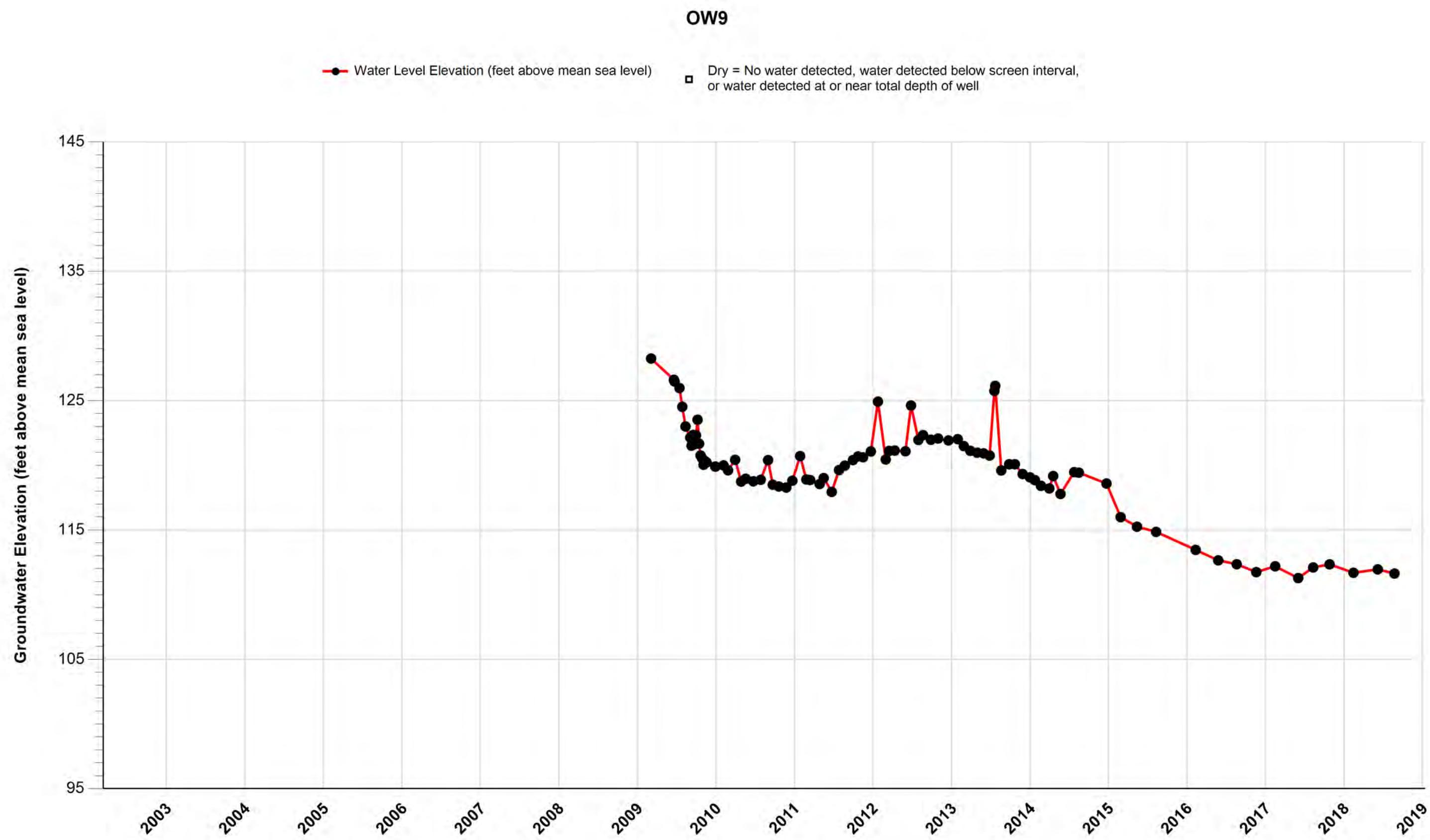
**Attachment B, Figure B-16**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**



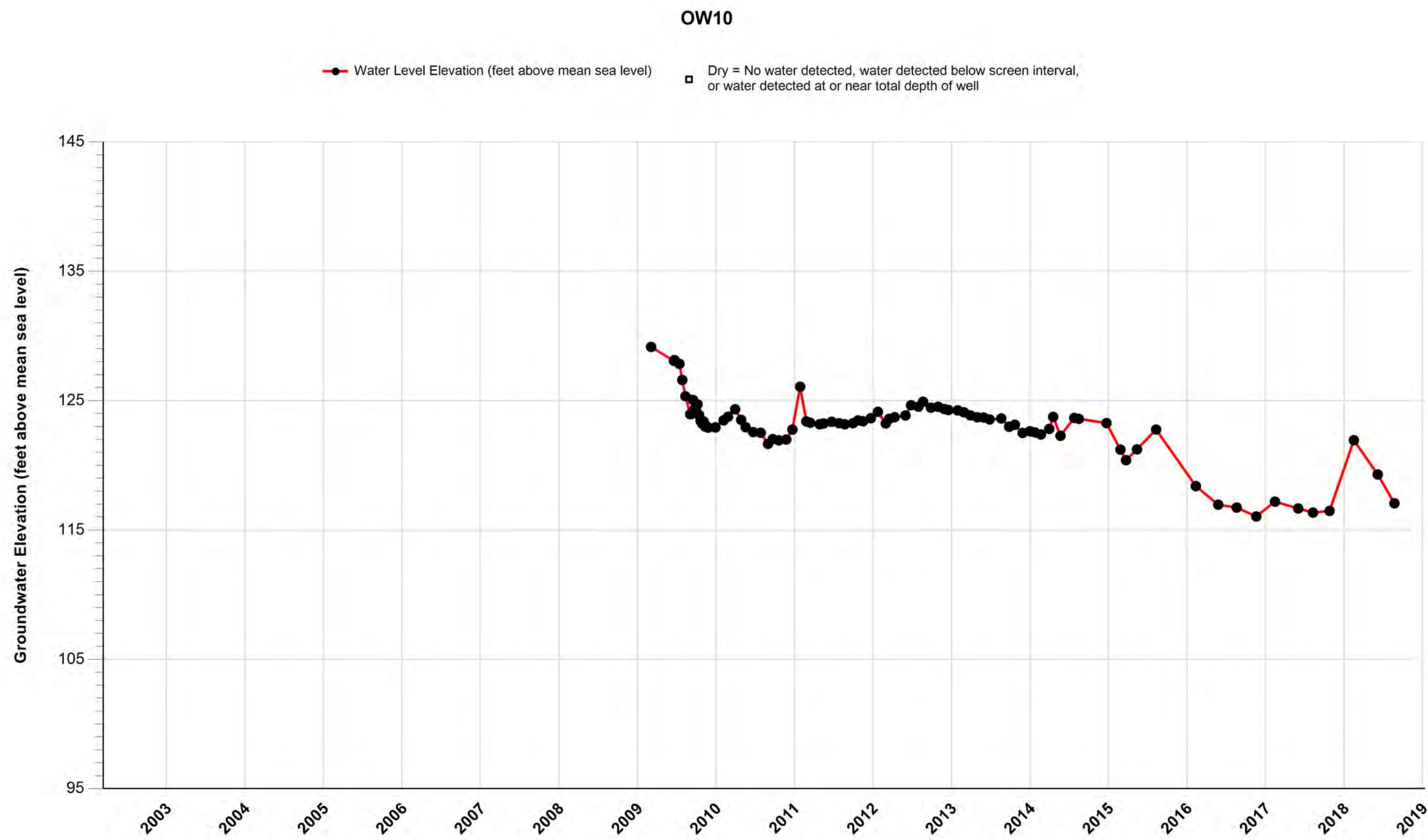
Attachment B, Figure B-17  
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site  
PSVP Piezometric Data



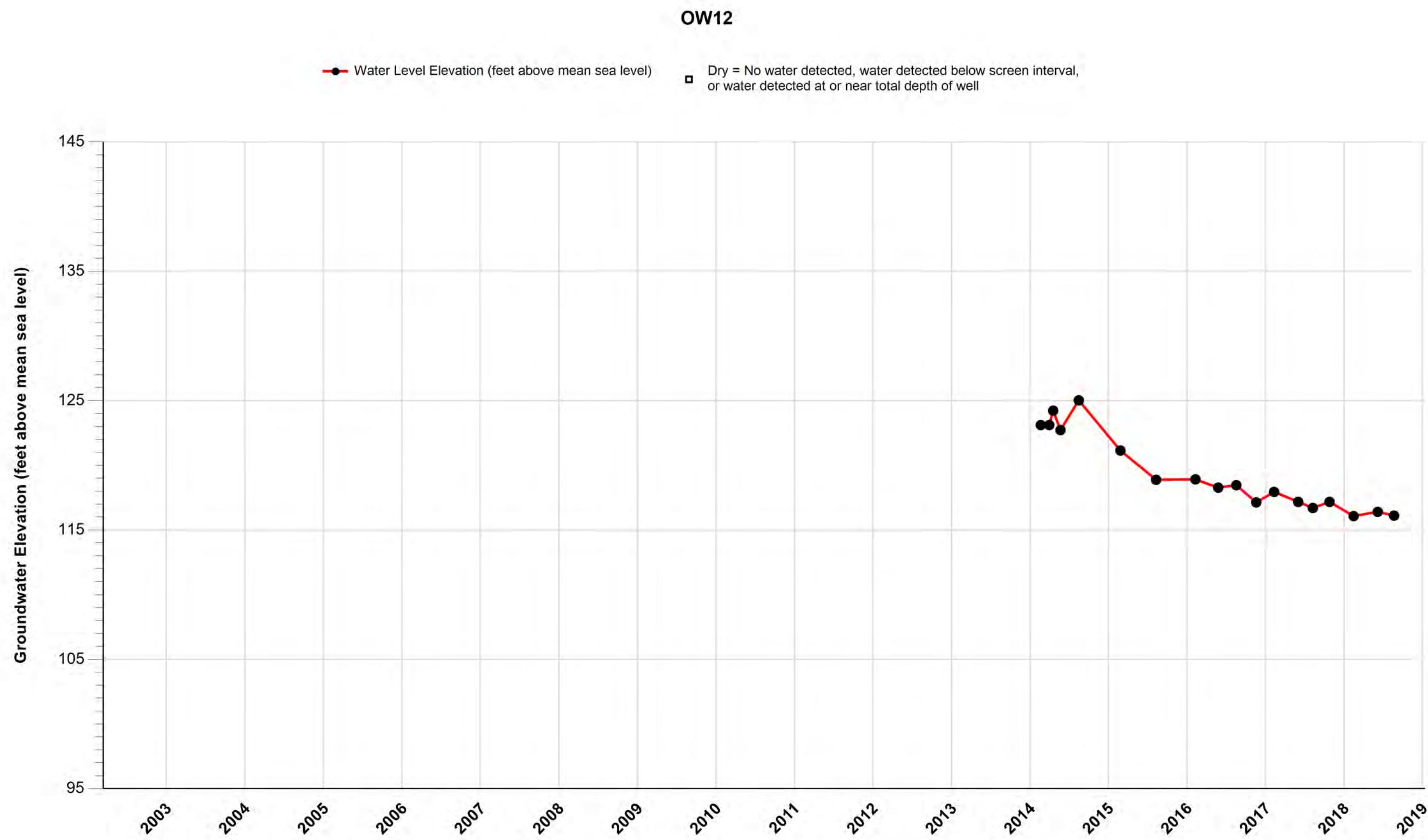
Attachment B, Figure B-18  
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site  
PSVP Piezometric Data



Attachment B, Figure B-19  
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site  
PSVP Piezometric Data



**Attachment B, Figure B-20**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**PSVP Piezometric Data**



## **ATTACHMENT C**

### **Field Forms**

**OMEGA**  
**DAILY FIELD REPORT**

|  |                      |                    |                |
|--|----------------------|--------------------|----------------|
| Project Name: Omega Chemical   |                      | Project #: E742    | Date: 11/16/18 |
| Personnel: K.Azher   | Sub Contractors: —   |                    |                |
| Arrival Time: 0800   | Departure Time: 1430 | Hours on Site: 4.5 |                |
| Odometer (Start): —  | Odometer (End): —    | Total Miles: —     |                |
| Task Description: SVE 1 OMM <input type="checkbox"/> SVE 2 OMM <input checked="" type="checkbox"/> GWTS OMM <input type="checkbox"/> |                      |                    |                |
|  |                      |                    |                |
|  |                      |                    |                |
|  |                      |                    |                |

**Equipment List:**

- Vacuum Meter      Type: Extech Manometer      Serial #: \_\_\_\_\_
- PID/FID      Type: MiniRAE 3000 OPOG or rental?      Serial #: \_\_\_\_\_
- Sample Pump      Type: Thomas      Serial #: \_\_\_\_\_
- Flow Meter      Type: Velocicalc      Serial #: \_\_\_\_\_
- Water Level Meter      Type: \_\_\_\_\_      Serial #: \_\_\_\_\_
- Water Quality Meter      Type: \_\_\_\_\_      Serial #: \_\_\_\_\_
- Generator/Battery      Type: \_\_\_\_\_      Serial #: \_\_\_\_\_
- Other(s): \_\_\_\_\_

**Description of Work Performed:** (Summarize all field activities in a chronological sequence. Include tailgate health and safety meeting, personnel/visitors at site, calibration times and methods.)

0800 Arrive onsite. IT's. Get paperwork ready. Internet and printer are not working properly.  
 0900 Join optimization conf. call.  
 0945 Finish call. Mobilize equipment. Calibrate PID (0.006 ppb); 0 ppb/5024 ppb Hexane.  
 1000 Start Doc sub OMM.

Client Signature (if applicable): \_\_\_\_\_ Date: \_\_\_\_\_

## DAILY FIELD REPORT

|                              |                 |                |
|------------------------------|-----------------|----------------|
| Project Name: Omega Chemical | Project #: E742 | Date: 11/14/18 |
|------------------------------|-----------------|----------------|

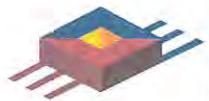
1030 Start GW gauging.

1245 Goto OUL-SVG. Finish gauging. Start collecting readings from all OUL VGW's.

1315 Finish. Start closing off VGWs to pull up moisture from wells that are not registering a flow.

1345 Start collecting 2nd round of VGW readings.

1430 Finish. Goto Feedlot to pln F&Q summaries off silo.



## DAILY SAFETY MEETING

Project Name: Omega Chemical

Date: 11/16/18

Project Number: E742

Presented by: \_\_\_\_\_

### Check the Topics/Information Reviewed:

- |  |   |  |
|--|---|--|
| <input checked="" type="checkbox"/> Safety is everyone's responsibility        | <input checked="" type="checkbox"/> Smoking in designated areas                   | <input type="checkbox"/> Upgrade to Level C at: PID ( <u>  </u> eV) > <u>  </u> ppmv         |
| <input checked="" type="checkbox"/> Accidents can be costly                    | <input checked="" type="checkbox"/> Parking and lay down area                     | <input type="checkbox"/> Work stoppage at: PID ( <u>  </u> eV) > <u>  </u> ppmv, % LEL > 10% |
| <input checked="" type="checkbox"/> No horseplay                               | <input checked="" type="checkbox"/> Leather gloves for protection                 | <input type="checkbox"/> All underground utilities cleared?                                  |
| <input checked="" type="checkbox"/> Site health and safety plan reviewed       | <input checked="" type="checkbox"/> Vehicle backing up hazards                    | <input checked="" type="checkbox"/> Flex-N-Stretch performed                                 |
| <input checked="" type="checkbox"/> Review emergency protocol                  | <input checked="" type="checkbox"/> Sharp object, rebar, and scrap metal hazards  | <input checked="" type="checkbox"/> Anticipated visitors                                     |
| <input checked="" type="checkbox"/> Directions to hospital ( <u>P14</u> )      | <input checked="" type="checkbox"/> Effects of the night before?                  | <input type="checkbox"/> Temporary Power Lines   |
| <input checked="" type="checkbox"/> Employee Right-To-Know/SDS location        | <input checked="" type="checkbox"/> Weather conditions (rain/snow)                | <input type="checkbox"/> Overhead Utilities  |
| <input checked="" type="checkbox"/> First aid, safety, and PPE location        | <input checked="" type="checkbox"/> Latex gloves inner/nitrile gloves outer       | <input type="checkbox"/> Excavations/Trenches (competent person)                             |
| <input checked="" type="checkbox"/> Safety glasses, hard hat, safety boots     | <input checked="" type="checkbox"/> Vibration related injuries                    | <input type="checkbox"/> Heavy Equipment Operations  |
| <input checked="" type="checkbox"/> Fire extinguisher locations                | <input checked="" type="checkbox"/> Open pits, excavations, and trenching hazards | <input type="checkbox"/> Overloaded Equipment (tipping)                                      |
| <input checked="" type="checkbox"/> Daily work scope reviewed                  | <input checked="" type="checkbox"/> Noise hazards                                 | <input checked="" type="checkbox"/> Heavy Lifting  |
| <input checked="" type="checkbox"/> Strains and sprains                        | <input checked="" type="checkbox"/> Dust and vapor control                        | <input checked="" type="checkbox"/> Traffic  |
| <input checked="" type="checkbox"/> Slips, trips, and falls                    | <input type="checkbox"/> Excavation/trenching inspections/documentation           | <input checked="" type="checkbox"/> Exclusion Zones  |
| <input checked="" type="checkbox"/> Eye wash station locations                 | <input type="checkbox"/> Confined space entry – permit required                   | <input checked="" type="checkbox"/> Uneven Terrain   |
| <input checked="" type="checkbox"/> Electrical ground fault                    | <input type="checkbox"/> Confined space entry – non-permit required               | <input checked="" type="checkbox"/> Chemicals  |
| <input checked="" type="checkbox"/> Vehicle safety and driving/road conditions | <input type="checkbox"/> Refueling procedures                                     | <input checked="" type="checkbox"/> Flammability   |
| <input checked="" type="checkbox"/> Public safety and fences                   | <input type="checkbox"/> Full face respirators with proper cartridges             | <input checked="" type="checkbox"/> Wet Surfaces   |
| <input checked="" type="checkbox"/> Heat and cold stress                       | <input type="checkbox"/> Hot work permits   | <input checked="" type="checkbox"/> Ladder Safety  |
| <input checked="" type="checkbox"/> Equipment and machinery familiarization    | <input checked="" type="checkbox"/> Flying debris hazards                         | <input checked="" type="checkbox"/> Pinch Points   |
| <input type="checkbox"/> Excavator swing and loading                           | <input type="checkbox"/> Overhead utility locations cleared.                      | <input type="checkbox"/> Unexploded Ordnance (UXO) Hazard                                    |
| <input checked="" type="checkbox"/> Decontamination steps                      | <input checked="" type="checkbox"/> Poison ivy/oak/sumac/insects/animals          | <input checked="" type="checkbox"/> Daily Vehicle Walkaround/Inspection                      |
| <input checked="" type="checkbox"/> Portable tool safety and awareness         |   |  |
| <input checked="" type="checkbox"/> Orderly site and housekeeping              |   |  |

Other Discussion Items/Comments/Follow-up Actions: Stay hydrated

JHA Site Health and Safety Officer (SHSO) of the day: Khalid Ahsan

NAME

SIGNATURE

COMPANY

Khalid Ahsan

b9

JHA

### Instructions:

- Conduct a daily safety meeting prior to beginning each day's site activities
- Complete form, obtain signatures, and file with the Daily Summary
- Follow-up on any noted items and document resolution of any action items.

**GROUNDWATER GAUGING FORM**  
**OMEGA CHEMICAL GROUNDWATER TREATMENT SYSTEM**  
 WHITTIER, CA

DATE: 11/16/2018 TECHNICIAN(S): K. Azhar

| Well ID | Well Diameter | Time (hh:mm) | PID (ppm) | Depth to Water (ft btoc) | Previous Depth to Water (ft btoc) | Total Depth (ft btoc) | Previous Total Depth (ft btoc) | Screen Interval (ft btoc) |
|---------|---------------|--------------|-----------|--------------------------|-----------------------------------|-----------------------|--------------------------------|---------------------------|
| EW-1    | 6             | 10:34        | 0         | 85.85                    | 86.38                             | NM                    | NM                             | 72-87                     |
| EW-2    | 6             | 10:45        | 0         | 85.99                    | 84.38                             | NM                    | NM                             | 72-87                     |
| EW-3    | 6             | 10:51        | 0.09      | 82.9                     | 82.88                             | NM                    | NM                             | 70-85                     |
| EW-4    | 6             | 10:58        | 0.043     | 81.51                    | 80.88                             | NM                    | NM                             | 71-86                     |
| EW-5    | 6             | 11:03        | 0.03      | 81.5                     | 81.45                             | NM                    | NM                             | 70-85                     |
| PZ-1    | 2             | 10:48        | 0         | 87.07                    | 86.98                             | 87.3                  | 87.25                          | 68-88                     |
| PZ-2    | 2             | 10:36        | 0         | DRY                      | DRY                               | 84.4                  | 84.41                          | 64-84                     |
| PZ-3    | 2             | 11:48        | 0.008     | DRY                      | DRY                               | 89                    | 89.05                          | 69.8-89.8                 |
| PZ-4    | 2             | 11:05        | 4.661     | 72.86                    | 73.32                             | 89.01                 | 89.15                          | 70-90                     |
| PZ-9    | 2             | 11:24        | 0.068     | 84.85                    | 85.34                             | 90                    | 90.02                          | 70-90                     |
| OW-1a   | 4             | 12:29        | 0.163     | DRY                      | DRY                               | 82.55                 | 82.58                          | 62.5-77.5                 |
| OW-1b   | 4             | 11:34        | 0.473     | 96.1                     | 94.58                             | 118.13                | 118.15                         | 110-120                   |
| OW-2    | 4             | 10:30        | 0.068     | DRY                      | DRY                               | 79.55                 | 79.52                          | 60-80                     |
| OW-3a   | 4             | 10:55        | 0.004     | 81.06                    | DRY                               | 81.15                 | 87.27                          | 63-83                     |
| OW-3b   | 4             | 11:01        | 1.99      | 97.22                    | 95.42                             | 121.95                | 122                            | 112-122                   |
| OW-7    | 4             | 11:51        | 0.163     | DRY                      | DRY                               | 89.1                  | 89.07                          | 70.9-90.9                 |
| OW-8a   | 4             | 10:42        | 0.025     | 77.64                    | DRY                               | 79.05                 | 79.03                          | 60.4-80                   |
| OW-8b   | 4             | 10:40        | 0.27      | 100.48                   | 98.69                             | 126                   | 126                            | 116-126                   |
| OW-9    | 4             | 11:22        | 0.111     | 85.4                     | 86.44                             | 89.71                 | 89.73                          | 70-90                     |
| OW-10   | 4             | 12:26        | 0.12      | 78.57                    | 78.48                             | 89.19                 | 89.23                          | 69.5-89.5                 |
| OW-11   | 4             | 10:26        | 0.189     | 86.83                    | 87.5                              | 98.77                 | 98.8                           | 80-100                    |
| OW-12   | 4             | 11:39        | 0.331     | 92.38                    | 92.31                             | 100                   | 100                            | 80-100                    |
| DPE-3   | 4             | 12:21        | NM        | 92.45                    | 92.41                             | NM                    | 100                            | 40-100                    |
| DPE-4   | 4             | 11:54        | NM        | 91.86                    | 92.27                             | NM                    | 100                            | 40-100                    |
| DPE-5   | 4             | 12:07        | NM        | 91.76                    | 91.91                             | NM                    | 100                            | 40-100                    |
| DPE-8   | 4             | 12:07        | NM        | 90.89                    | 90.89                             | NM                    | 100                            | 40-100                    |
| DPE-9   | 4             | 11:54        | NM        | 85.92                    | 88.47                             | NM                    | 100                            | 40-100                    |
| DPE-7D  | 4             | 13:15        | NM        | 92.69                    | 90.9                              | NM                    | 100                            | 40-100                    |
| DPE-10D | 4             | 15:31        | NM        | 94.13                    | 93.04                             | NM                    | 100                            | 40-100                    |
| OW-13B  | 4             | 12:05        | 223       | 99.8                     | 98.06                             | 140                   | 140.05                         | 40-140                    |

## **ATTACHMENT D**

**Laboratory Analytical Results  
and Data Verification Reports**

**Data Quality Assessment**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**Fourth Quarter 2018**

| Sampling Event                           | Sampling Rationale   | Frequency of Analysis  | Matrix | Lab WO# | Sampling Date | Field Quality Control Samples   | Data Review Level | Review of Laboratory QC Samples  | Data Usability   |
|--|--|--|--------|---------|---------------|---|-------------------|----------------------------------|--|
| <b>SDLAC Quarterly Sampling</b>          |  |  |        |         |               |   |                   |                                  |  |
| Q4                                       | Quarterly sampling of the treatment plant effluent is required per Los Angeles County Sanitation District Industrial Waste Discharge Permit Number 20039.        | Quarterly  | Water  | 224565  | 11/15-16/2018 | Equipment blanks are not needed as sampling equipment is not used. Trip blanks and field duplicates are not needed for this compliance sampling.  | Stage 2A          | MB, LCS/LCSD, MS/MSD, surrogates | Results for pH and dissolved sulfide are qualified as estimated (J,UJ). These parameters are 'analyze immediately' parameters. Field measurements should be used. Results for 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 2-chlorophenol, 3,3'-dichlorobenzidine, 3-nitroaniline, 4-chloroaniline, aniline, benzidine, hexachlorobutadiene, hexachloroethane, 1,4-dioxane, and acetone in GRAB were qualified as estimated (J, UJ) due to unacceptable LCS/LCSD %Rs and RPDs and/or surrogate recoveries. |
| <b>GWTS Process Sampling</b>             |  |  |        |         |               |   |                   |                                  |  |
| <i>SCAQMD Compliance</i>                 |  |  |        |         |               |   |                   |                                  |  |
| Q4                                       | Sampling of the influent, intermediate, and effluent sample ports of the VPGAC vessels is required monthly for the SCAQMD permit.                                | Monthly  | Air    | 1810342 | 10/12/2018    | Equipment blanks are not needed as sampling equipment is not used to collect the vapor samples. Trip blanks are not typically submitted with Summa canisters. Field duplicates are not needed for this compliance sampling.   | Stage 2A          | MB, LCS/LCSD, surrogates         | The TNMOC value reported should not be used as TVOC as it is not the sum of the reported concentrations. No other qualification of sample results was warranted.   |
|  |  |  |        | 1811241 | 11/9/2018     |   |                   |                                  | The TNMOC value reported should not be used as TVOC as it is not the sum of the reported concentrations. No other qualification of sample results was warranted.   |
|  |  |  |        | 1812559 | 12/18/2018    |   |                   |                                  | The TNMOC value reported should not be used as TVOC as it is not the sum of the reported concentrations. No other qualification of sample results was warranted.   |
| <i>Treatment System Process Sampling</i> |  |  |        |         |               |   |                   |                                  |  |
| Q4                                       | Analysis of the influent and effluent samples (before and after the air stripper) from the GWTS are needed to assess the performance of the treatment equipment. | Monthly (monthly for the first year of operation for the influent sample, frequency may change after 1st year); monthly for effluent sample. | Water  | 222208  | 10/12/2018    | Equipment blanks are not needed as sampling equipment is not used to collect these samples from the sample ports. Field duplicates are not needed for this treatment assessment sampling. Trip blanks were analyzed with these samples and all trip blank results were nondetect. | Stage 2A          | MB, LCS/LCSD, MS/MSD, surrogates | The result for acetone in OC_SP220B_EFF_101218 was qualified as not detected (U) at the reported concentration due to trip blank contamination. The result for 1,4-dioxane in OC_SP220B_EFF_101218 was qualified estimated (J-) due to unacceptable surrogate and LCS recoveries. The result may be biased low. No other data required qualification a result of the review effort.  |
|  |  |  |        | 224055  | 11/9/2018     |   |                   |                                  | The result for 1,4-dioxane in OC_SP220B_EFF_110918 was qualified estimated (J-) due to unacceptable surrogate and LCS recoveries. The result may be biased low. No other qualification of sample results was warranted.  |
|  |  |  |        | 228243  | 12/18/2018    |   |                   |                                  | The result for 1,4-dioxane in OC_SP220B_EFF_121818 was qualified estimated (J-) due to low surrogate and LCS recoveries. The result may be biased low. Results for IPA were qualified as estimated (UJ) because no LCS analysis was performed to verify the laboratory could acceptably recover the analyte. No other qualification of sample results was warranted.   |

10/22/2018  
Ms. Jaime Dinello  
DeMaximis, Inc  
1340 Reynolds Ave, Suite 105

Irvine CA 92614

Project Name: Omega - GWTS Monthly GAC  
Project #:  
Workorder #: 1810342

Dear Ms. Jaime Dinello

The following report includes the data for the above referenced project for sample(s) received on 10/15/2018 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner  
Project Manager

**A Eurofins Lancaster Laboratories Company**

**WORK ORDER #:** 1810342

## Work Order Summary

|                        |   |                  |   |
|------------------------|---|------------------|---|
| <b>CLIENT:</b>         | Ms. Jaime Dinello<br>DeMaximis, Inc<br>1340 Reynolds Ave, Suite 105<br>Irvine, CA 92614 | <b>BILL TO:</b>  | Mr. Tom Dorsey<br>Omega Chemical Site Environmental<br>Remediation Trust<br>1322 Scott St.<br>Suite 104 |
| <b>PHONE:</b>          | 949.679.9290  | <b>P.O. #</b>    |   |
| <b>FAX:</b>            | 949.679.9078  | <b>PROJECT #</b> | Omega - GWTS Monthly GAC  |
| <b>DATE RECEIVED:</b>  | 10/15/2018  | <b>CONTACT:</b>  | Kelly Buettner  |
| <b>DATE COMPLETED:</b> | 10/22/2018  |                  |   |

| <u>FRACTION #</u> | <u>NAME</u>              | <u>TEST</u> | <u>RECEIPT VAC./PRES.</u> | <u>FINAL PRESSURE</u> |
|-------------------|--------------------------|-------------|---------------------------|-----------------------|
| 01A               | OC_VGAC_EFF_SP242_101218 | TO-15       | 3.9 "Hg                   | 14.9 psi              |
| 02A               | OC_VGAC_INT_SP245_101218 | TO-15       | 4.5 "Hg                   | 15.2 psi              |
| 03A               | OC_VGAC_INF_SP241_101218 | TO-15       | 4.5 "Hg                   | 15 psi                |
| 04A               | Lab Blank                | TO-15       | NA                        | NA                    |
| 05A               | CCV                      | TO-15       | NA                        | NA                    |
| 06A               | LCS                      | TO-15       | NA                        | NA                    |
| 06AA              | LCSD                     | TO-15       | NA                        | NA                    |

CERTIFIED BY:

DATE: 10/22/18

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630  
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE  
EPA Method TO-15  
DeMaximis, Inc  
Workorder# 1810342**

Three 1 Liter Summa Canister samples were received on October 16, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

The TNMOC concentration was calculated by taking the total area counts in the sample and quantitating the area based on the response factor of Heptane.

**Definition of Data Qualifying Flags**

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

## Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

**Client Sample ID: OC\_VGAC\_EFF\_SP242\_101218**

**Lab ID#: 1810342-01A**

| Compound           | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|--------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 11           | 1.2                  | 5.8              | 6.5                   | 33                |
| Freon 113          | 1.2                  | 22               | 8.8                   | 170               |
| 1,1-Dichloroethene | 1.2                  | 23               | 4.6                   | 93                |
| Chloroform         | 1.2                  | 4.8              | 5.6                   | 23                |

**Client Sample ID: OC\_VGAC\_INT\_SP245\_101218**

**Lab ID#: 1810342-02A**

| Compound           | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|--------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 11           | 1.2                  | 5.5              | 6.7                   | 31                |
| Freon 113          | 1.2                  | 25               | 9.2                   | 190               |
| 1,1-Dichloroethene | 1.2                  | 20               | 4.7                   | 81                |
| Chloroform         | 1.2                  | 6.1              | 5.8                   | 30                |
| 1,2-Dichloroethane | 1.2                  | 1.6              | 4.8                   | 6.5               |

**Client Sample ID: OC\_VGAC\_INF\_SP241\_101218**

**Lab ID#: 1810342-03A**

| Compound                       | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|--------------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 11                       | 1.2                  | 5.8              | 6.7                   | 33                |
| Freon 113                      | 1.2                  | 20               | 9.1                   | 150               |
| 1,1-Dichloroethene             | 1.2                  | 19               | 4.7                   | 75                |
| Chloroform                     | 1.2                  | 5.1              | 5.8                   | 25                |
| Trichloroethene                | 1.2                  | 10               | 6.4                   | 54                |
| Toluene                        | 1.2                  | 1.5              | 4.5                   | 5.6               |
| Tetrachloroethene              | 1.2                  | 65               | 8.1                   | 440               |
| TNMOC ref. to Heptane (MW=100) | 24                   | 200              | 97                    | 820               |



Air Toxics

Client Sample ID: OC\_VGAC\_EFF\_SP242\_101218

Lab ID#: 1810342-01A

**EPA METHOD TO-15 GC/MS FULL SCAN**

| <b>File Name:</b>                | a101716              | <b>Date of Collection:</b> | 10/12/18 8:48:00 AM   |                   |
|----------------------------------|----------------------|----------------------------|-----------------------|-------------------|
| <b>Dil. Factor:</b>              | 2.31                 | <b>Date of Analysis:</b>   | 10/17/18 10:52 PM     |                   |
| Compound                         | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv)           | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
| Freon 12                         | 1.2                  | Not Detected               | 5.7                   | Not Detected      |
| Vinyl Chloride                   | 1.2                  | Not Detected               | 3.0                   | Not Detected      |
| Freon 11                         | 1.2                  | 5.8                        | 6.5                   | 33                |
| Freon 113                        | 1.2                  | 22                         | 8.8                   | 170               |
| 1,1-Dichloroethene               | 1.2                  | 23                         | 4.6                   | 93                |
| 2-Propanol                       | 4.6                  | Not Detected               | 11                    | Not Detected      |
| Carbon Disulfide                 | 4.6                  | Not Detected               | 14                    | Not Detected      |
| Methylene Chloride               | 12                   | Not Detected               | 40                    | Not Detected      |
| Hexane                           | 1.2                  | Not Detected               | 4.1                   | Not Detected      |
| 1,1-Dichloroethane               | 1.2                  | Not Detected               | 4.7                   | Not Detected      |
| 2-Butanone (Methyl Ethyl Ketone) | 4.6                  | Not Detected               | 14                    | Not Detected      |
| Chloroform                       | 1.2                  | 4.8                        | 5.6                   | 23                |
| 1,1,1-Trichloroethane            | 1.2                  | Not Detected               | 6.3                   | Not Detected      |
| Carbon Tetrachloride             | 1.2                  | Not Detected               | 7.3                   | Not Detected      |
| Benzene                          | 1.2                  | Not Detected               | 3.7                   | Not Detected      |
| 1,2-Dichloroethane               | 1.2                  | Not Detected               | 4.7                   | Not Detected      |
| Trichloroethene                  | 1.2                  | Not Detected               | 6.2                   | Not Detected      |
| 1,4-Dioxane                      | 4.6                  | Not Detected               | 17                    | Not Detected      |
| Toluene                          | 1.2                  | Not Detected               | 4.4                   | Not Detected      |
| 1,1,2-Trichloroethane            | 1.2                  | Not Detected               | 6.3                   | Not Detected      |
| Tetrachloroethene                | 1.2                  | Not Detected               | 7.8                   | Not Detected      |
| o-Xylene                         | 1.2                  | Not Detected               | 5.0                   | Not Detected      |
| TNMOC ref. to Heptane (MW=100)   | 23                   | Not Detected               | 94                    | Not Detected      |

**Container Type: 1 Liter Summa Canister**

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| Toluene-d8            | 101       | 70-130           |
| 1,2-Dichloroethane-d4 | 96        | 70-130           |
| 4-Bromofluorobenzene  | 100       | 70-130           |



Air Toxics

Client Sample ID: OC\_VGAC\_INT\_SP245\_101218

Lab ID#: 1810342-02A

**EPA METHOD TO-15 GC/MS FULL SCAN**

| <b>File Name:</b>                | a101717              | <b>Date of Collection:</b> | 10/12/18 8:49:00 AM   |                   |
|----------------------------------|----------------------|----------------------------|-----------------------|-------------------|
| <b>Dil. Factor:</b>              | 2.39                 | <b>Date of Analysis:</b>   | 10/17/18 11:18 PM     |                   |
| Compound                         | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv)           | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
| Freon 12                         | 1.2                  | Not Detected               | 5.9                   | Not Detected      |
| Vinyl Chloride                   | 1.2                  | Not Detected               | 3.0                   | Not Detected      |
| Freon 11                         | 1.2                  | 5.5                        | 6.7                   | 31                |
| Freon 113                        | 1.2                  | 25                         | 9.2                   | 190               |
| 1,1-Dichloroethene               | 1.2                  | 20                         | 4.7                   | 81                |
| 2-Propanol                       | 4.8                  | Not Detected               | 12                    | Not Detected      |
| Carbon Disulfide                 | 4.8                  | Not Detected               | 15                    | Not Detected      |
| Methylene Chloride               | 12                   | Not Detected               | 42                    | Not Detected      |
| Hexane                           | 1.2                  | Not Detected               | 4.2                   | Not Detected      |
| 1,1-Dichloroethane               | 1.2                  | Not Detected               | 4.8                   | Not Detected      |
| 2-Butanone (Methyl Ethyl Ketone) | 4.8                  | Not Detected               | 14                    | Not Detected      |
| Chloroform                       | 1.2                  | 6.1                        | 5.8                   | 30                |
| 1,1,1-Trichloroethane            | 1.2                  | Not Detected               | 6.5                   | Not Detected      |
| Carbon Tetrachloride             | 1.2                  | Not Detected               | 7.5                   | Not Detected      |
| Benzene                          | 1.2                  | Not Detected               | 3.8                   | Not Detected      |
| 1,2-Dichloroethane               | 1.2                  | 1.6                        | 4.8                   | 6.5               |
| Trichloroethene                  | 1.2                  | Not Detected               | 6.4                   | Not Detected      |
| 1,4-Dioxane                      | 4.8                  | Not Detected               | 17                    | Not Detected      |
| Toluene                          | 1.2                  | Not Detected               | 4.5                   | Not Detected      |
| 1,1,2-Trichloroethane            | 1.2                  | Not Detected               | 6.5                   | Not Detected      |
| Tetrachloroethene                | 1.2                  | Not Detected               | 8.1                   | Not Detected      |
| o-Xylene                         | 1.2                  | Not Detected               | 5.2                   | Not Detected      |
| TNMOC ref. to Heptane (MW=100)   | 24                   | Not Detected               | 98                    | Not Detected      |

**Container Type: 1 Liter Summa Canister**

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| Toluene-d8            | 103       | 70-130           |
| 1,2-Dichloroethane-d4 | 96        | 70-130           |
| 4-Bromofluorobenzene  | 99        | 70-130           |



Air Toxics

Client Sample ID: OC\_VGAC\_INF\_SP241\_101218

Lab ID#: 1810342-03A

**EPA METHOD TO-15 GC/MS FULL SCAN**

| <b>File Name:</b>                | a101718              | <b>Date of Collection:</b> | 10/12/18 8:50:00 AM   |                   |
|----------------------------------|----------------------|----------------------------|-----------------------|-------------------|
| <b>Dil. Factor:</b>              | 2.38                 | <b>Date of Analysis:</b>   | 10/17/18 11:45 PM     |                   |
| Compound                         | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv)           | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
| Freon 12                         | 1.2                  | Not Detected               | 5.9                   | Not Detected      |
| Vinyl Chloride                   | 1.2                  | Not Detected               | 3.0                   | Not Detected      |
| Freon 11                         | 1.2                  | 5.8                        | 6.7                   | 33                |
| Freon 113                        | 1.2                  | 20                         | 9.1                   | 150               |
| 1,1-Dichloroethene               | 1.2                  | 19                         | 4.7                   | 75                |
| 2-Propanol                       | 4.8                  | Not Detected               | 12                    | Not Detected      |
| Carbon Disulfide                 | 4.8                  | Not Detected               | 15                    | Not Detected      |
| Methylene Chloride               | 12                   | Not Detected               | 41                    | Not Detected      |
| Hexane                           | 1.2                  | Not Detected               | 4.2                   | Not Detected      |
| 1,1-Dichloroethane               | 1.2                  | Not Detected               | 4.8                   | Not Detected      |
| 2-Butanone (Methyl Ethyl Ketone) | 4.8                  | Not Detected               | 14                    | Not Detected      |
| Chloroform                       | 1.2                  | 5.1                        | 5.8                   | 25                |
| 1,1,1-Trichloroethane            | 1.2                  | Not Detected               | 6.5                   | Not Detected      |
| Carbon Tetrachloride             | 1.2                  | Not Detected               | 7.5                   | Not Detected      |
| Benzene                          | 1.2                  | Not Detected               | 3.8                   | Not Detected      |
| 1,2-Dichloroethane               | 1.2                  | Not Detected               | 4.8                   | Not Detected      |
| Trichloroethene                  | 1.2                  | 10                         | 6.4                   | 54                |
| 1,4-Dioxane                      | 4.8                  | Not Detected               | 17                    | Not Detected      |
| Toluene                          | 1.2                  | 1.5                        | 4.5                   | 5.6               |
| 1,1,2-Trichloroethane            | 1.2                  | Not Detected               | 6.5                   | Not Detected      |
| Tetrachloroethene                | 1.2                  | 65                         | 8.1                   | 440               |
| o-Xylene                         | 1.2                  | Not Detected               | 5.2                   | Not Detected      |
| TNMOC ref. to Heptane (MW=100)   | 24                   | 200                        | 97                    | 820               |

**Container Type: 1 Liter Summa Canister**

| Surrogates            | %Recovery | Method<br>Limits |
|-----------------------|-----------|------------------|
| Toluene-d8            | 101       | 70-130           |
| 1,2-Dichloroethane-d4 | 95        | 70-130           |
| 4-Bromofluorobenzene  | 100       | 70-130           |



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1810342-04A

**EPA METHOD TO-15 GC/MS FULL SCAN**

| <b>File Name:</b>                | a101705c             | <b>Date of Collection: NA</b>              |                       |                   |
|----------------------------------|----------------------|--|-----------------------|-------------------|
| <b>Dil. Factor:</b>              | 1.00                 | <b>Date of Analysis: 10/17/18 01:07 PM</b> |                       |                   |
| Compound                         | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv)                           | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
| Freon 12                         | 0.50                 | Not Detected                               | 2.5                   | Not Detected      |
| Vinyl Chloride                   | 0.50                 | Not Detected                               | 1.3                   | Not Detected      |
| Freon 11                         | 0.50                 | Not Detected                               | 2.8                   | Not Detected      |
| Freon 113                        | 0.50                 | Not Detected                               | 3.8                   | Not Detected      |
| 1,1-Dichloroethene               | 0.50                 | Not Detected                               | 2.0                   | Not Detected      |
| 2-Propanol                       | 2.0                  | Not Detected                               | 4.9                   | Not Detected      |
| Carbon Disulfide                 | 2.0                  | Not Detected                               | 6.2                   | Not Detected      |
| Methylene Chloride               | 5.0                  | Not Detected                               | 17                    | Not Detected      |
| Hexane                           | 0.50                 | Not Detected                               | 1.8                   | Not Detected      |
| 1,1-Dichloroethane               | 0.50                 | Not Detected                               | 2.0                   | Not Detected      |
| 2-Butanone (Methyl Ethyl Ketone) | 2.0                  | Not Detected                               | 5.9                   | Not Detected      |
| Chloroform                       | 0.50                 | Not Detected                               | 2.4                   | Not Detected      |
| 1,1,1-Trichloroethane            | 0.50                 | Not Detected                               | 2.7                   | Not Detected      |
| Carbon Tetrachloride             | 0.50                 | Not Detected                               | 3.1                   | Not Detected      |
| Benzene                          | 0.50                 | Not Detected                               | 1.6                   | Not Detected      |
| 1,2-Dichloroethane               | 0.50                 | Not Detected                               | 2.0                   | Not Detected      |
| Trichloroethene                  | 0.50                 | Not Detected                               | 2.7                   | Not Detected      |
| 1,4-Dioxane                      | 2.0                  | Not Detected                               | 7.2                   | Not Detected      |
| Toluene                          | 0.50                 | Not Detected                               | 1.9                   | Not Detected      |
| 1,1,2-Trichloroethane            | 0.50                 | Not Detected                               | 2.7                   | Not Detected      |
| Tetrachloroethene                | 0.50                 | Not Detected                               | 3.4                   | Not Detected      |
| o-Xylene                         | 0.50                 | Not Detected                               | 2.2                   | Not Detected      |
| TNMOC ref. to Heptane (MW=100)   | 10                   | Not Detected                               | 41                    | Not Detected      |

**Container Type: NA - Not Applicable**

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8            | 102       | 70-130        |
| 1,2-Dichloroethane-d4 | 95        | 70-130        |
| 4-Bromofluorobenzene  | 102       | 70-130        |



Air Toxics

Client Sample ID: CCV

Lab ID#: 1810342-05A

**EPA METHOD TO-15 GC/MS FULL SCAN**

|              |         |                     |                   |
|--------------|---------|---------------------|-------------------|
| File Name:   | a101702 | Date of Collection: | NA                |
| Dil. Factor: | 1.00    | Date of Analysis:   | 10/17/18 11:11 AM |

| Compound                         | %Recovery |
|----------------------------------|-----------|
| Freon 12                         | 101       |
| Vinyl Chloride                   | 108       |
| Freon 11                         | 99        |
| Freon 113                        | 101       |
| 1,1-Dichloroethene               | 107       |
| 2-Propanol                       | 105       |
| Carbon Disulfide                 | 104       |
| Methylene Chloride               | 104       |
| Hexane                           | 106       |
| 1,1-Dichloroethane               | 108       |
| 2-Butanone (Methyl Ethyl Ketone) | 109       |
| Chloroform                       | 107       |
| 1,1,1-Trichloroethane            | 101       |
| Carbon Tetrachloride             | 102       |
| Benzene                          | 103       |
| 1,2-Dichloroethane               | 104       |
| Trichloroethene                  | 103       |
| 1,4-Dioxane                      | 105       |
| Toluene                          | 98        |
| 1,1,2-Trichloroethane            | 105       |
| Tetrachloroethene                | 103       |
| o-Xylene                         | 108       |
| TNMOC ref. to Heptane (MW=100)   | 100       |

**Container Type: NA - Not Applicable**

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8            | 99        | 70-130        |
| 1,2-Dichloroethane-d4 | 97        | 70-130        |
| 4-Bromofluorobenzene  | 103       | 70-130        |



Air Toxics

Client Sample ID: LCS

Lab ID#: 1810342-06A

**EPA METHOD TO-15 GC/MS FULL SCAN**

| File Name:                       | a101703    | Date of Collection: | NA                |
|----------------------------------|------------|---------------------|-------------------|
| Dil. Factor:                     | 1.00       | Date of Analysis:   | 10/17/18 11:54 AM |
| Compound                         | %Recovery  | Method              | Limits            |
| Freon 12                         | 111        | 70-130              |                   |
| Vinyl Chloride                   | 118        | 70-130              |                   |
| Freon 11                         | 108        | 70-130              |                   |
| Freon 113                        | 108        | 70-130              |                   |
| 1,1-Dichloroethene               | 114        | 70-130              |                   |
| 2-Propanol                       | 103        | 70-130              |                   |
| Carbon Disulfide                 | 115        | 70-130              |                   |
| Methylene Chloride               | 113        | 70-130              |                   |
| Hexane                           | 117        | 70-130              |                   |
| 1,1-Dichloroethane               | 116        | 70-130              |                   |
| 2-Butanone (Methyl Ethyl Ketone) | 116        | 70-130              |                   |
| Chloroform                       | 115        | 70-130              |                   |
| 1,1,1-Trichloroethane            | 108        | 70-130              |                   |
| Carbon Tetrachloride             | 111        | 70-130              |                   |
| Benzene                          | 111        | 70-130              |                   |
| 1,2-Dichloroethane               | 112        | 70-130              |                   |
| Trichloroethene                  | 118        | 70-130              |                   |
| 1,4-Dioxane                      | 100        | 70-130              |                   |
| Toluene                          | 106        | 70-130              |                   |
| 1,1,2-Trichloroethane            | 110        | 70-130              |                   |
| Tetrachloroethene                | 107        | 70-130              |                   |
| o-Xylene                         | 112        | 70-130              |                   |
| TNMOC ref. to Heptane (MW=100)   | Not Spiked |                     |                   |

**Container Type: NA - Not Applicable**

| Surrogates            | %Recovery | Method | Limits |
|-----------------------|-----------|--------|--------|
| Toluene-d8            | 101       | 70-130 |        |
| 1,2-Dichloroethane-d4 | 93        | 70-130 |        |
| 4-Bromofluorobenzene  | 100       | 70-130 |        |



Air Toxics

Client Sample ID: LCSD

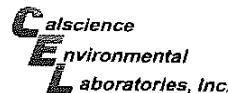
Lab ID#: 1810342-06AA

**EPA METHOD TO-15 GC/MS FULL SCAN**

| File Name:                       | a101704    | Date of Collection: | NA                |
|----------------------------------|------------|---------------------|-------------------|
| Dil. Factor:                     | 1.00       | Date of Analysis:   | 10/17/18 12:21 PM |
| Compound                         | %Recovery  | Method              | Limits            |
| Freon 12                         | 113        | 70-130              |                   |
| Vinyl Chloride                   | 118        | 70-130              |                   |
| Freon 11                         | 112        | 70-130              |                   |
| Freon 113                        | 110        | 70-130              |                   |
| 1,1-Dichloroethene               | 117        | 70-130              |                   |
| 2-Propanol                       | 109        | 70-130              |                   |
| Carbon Disulfide                 | 116        | 70-130              |                   |
| Methylene Chloride               | 115        | 70-130              |                   |
| Hexane                           | 119        | 70-130              |                   |
| 1,1-Dichloroethane               | 119        | 70-130              |                   |
| 2-Butanone (Methyl Ethyl Ketone) | 123        | 70-130              |                   |
| Chloroform                       | 118        | 70-130              |                   |
| 1,1,1-Trichloroethane            | 110        | 70-130              |                   |
| Carbon Tetrachloride             | 114        | 70-130              |                   |
| Benzene                          | 111        | 70-130              |                   |
| 1,2-Dichloroethane               | 111        | 70-130              |                   |
| Trichloroethene                  | 120        | 70-130              |                   |
| 1,4-Dioxane                      | 100        | 70-130              |                   |
| Toluene                          | 105        | 70-130              |                   |
| 1,1,2-Trichloroethane            | 115        | 70-130              |                   |
| Tetrachloroethene                | 110        | 70-130              |                   |
| o-Xylene                         | 117        | 70-130              |                   |
| TNMOC ref. to Heptane (MW=100)   | Not Spiked |                     |                   |

**Container Type: NA - Not Applicable**

| Surrogates            | %Recovery | Method | Limits |
|-----------------------|-----------|--------|--------|
| Toluene-d8            | 101       | 70-130 |        |
| 1,2-Dichloroethane-d4 | 100       | 70-130 |        |
| 4-Bromofluorobenzene  | 103       | 70-130 |        |



7440 LINCOLN WAY  
GARDEN GROVE, CA 92841-1427  
TEL: (714) 885-6484 . FAX: (714) 884-7801

### AIR CHAIN OF CUSTODY RECORD

DATE: 10/12/18  
PAGE: 1 OF 1

|  |                                  |  |                   |   |  |
|--|----------------------------------|--|-------------------|---|--|
| LABORATORY CLIENT:<br>de maximis   |                                  |  |                   | CLIENT PROJECT NAME / NUMBER:<br>Omega - GWTS Monthly GAC | P.O. NO.:  |
| ADDRESS:<br>1322 Scott St., Suite 104  |                                  |  |                   | PROJECT ADDRESS:<br>12520 Whittier Blvd.                  | LAB CONTACT OR QUOTE NO.:  |
| CITY:<br>San Diego   | STATE:<br>CA                     | ZIP:<br>92106  | CITY:<br>Whittier | STATE:<br>CA  | ZIP:<br>90602  |
| TEL:<br>(562) 756-8149   | EMAIL:<br>jdinello@demaximis.com | PROJECT CONTACT: Trent Henderson thenderson@jacobandhefner.com |                   |   |  |
| TURNAROUND TIME:<br><input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input checked="" type="checkbox"/> 5 DAYS <input type="checkbox"/> 10 DAYS |                                  |  |                   | SAMPLER(S) (NAME / SIGNATURE)<br>Khalid Acher <i>KA</i>   | LAB USE ONLY<br><input type="checkbox"/> <input type="checkbox"/> - <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

|  |           |                                |          |   |              |                            |      |                           |   |                 |                      |   |
|--|-----------|--------------------------------|----------|---|--------------|----------------------------|------|---------------------------|---|-----------------|----------------------|---|
| SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)<br><input checked="" type="checkbox"/> EDD |           |                                |          | SPECIAL INSTRUCTIONS:                       |              |                            |      | REQUESTED ANALYSES        |   |                 |                      |   |
| LAB USE ONLY   | SAMPLE ID | FIELD ID / Point of Collection | Air Type | Sampling Equipment Info                     |              | Start Sampling Information |      | Stop Sampling Information |   | TO-15 (TAL 2.3) |                      |   |
|  |           |                                |          | (I) Indoor<br>(SV) Soil Vap.<br>(A) Ambient | Canister ID# | Canister Size<br>6L or 1L  | Date | Time<br>(24hr clock)      | Canister Pressure<br>( <sup>o</sup> Hg) | Date            | Time<br>(24hr clock) | Canister Pressure<br>( <sup>o</sup> Hg) |

|    |                          |            |       |        |    |       |            |      |     |            |      |    |   |
|----|--------------------------|------------|-------|--------|----|-------|------------|------|-----|------------|------|----|---|
| 1  | OC_VGAC_EFF_SP242_101218 | SP-EFF-GAC | Vapor | 1L2942 | 1L | 23413 | 10/12/2018 | 0843 | -30 | 10/12/2018 | 0848 | -5 | x |
| 2  | OC_VGAC_INT_SP245_101218 | SP-MID-GAC | Vapor | 1L2809 | 1L | 23613 | 10/12/2018 | 0845 | -28 | 10/12/2018 | 0849 | -5 | x |
| 3  | OC_VGAC_INF_SP241_101218 | SP-INF-GAC | Vapor | 1L3887 | 1L | 24301 | 10/12/2018 | 0846 | -29 | 10/12/2018 | 0850 | -5 | x |
| 4  |                          |            |       |        |    |       |            |      |     |            |      |    |   |
| 5  |                          |            |       |        |    |       |            |      |     |            |      |    |   |
| 6  |                          |            |       |        |    |       |            |      |     |            |      |    |   |
| 7  |                          |            |       |        |    |       |            |      |     |            |      |    |   |
| 8  |                          |            |       |        |    |       |            |      |     |            |      |    |   |
| 9  |                          |            |       |        |    |       |            |      |     |            |      |    |   |
| 10 |                          |            |       |        |    |       |            |      |     |            |      |    |   |
| 11 |                          |            |       |        |    |       |            |      |     |            |      |    |   |
| 12 |                          |            |       |        |    |       |            |      |     |            |      |    |   |
| 13 |                          |            |       |        |    |       |            |      |     |            |      |    |   |
| 14 |                          |            |       |        |    |       |            |      |     |            |      |    |   |
| 15 |                          |            |       |        |    |       |            |      |     |            |      |    |   |

|   |   |                           |
|---|---|---------------------------|
| Relinquished by: (Signature)<br><i>KA</i> | Received by: (Signature)<br><i>MR</i>     | Date: 10/12/18 Time: 1015 |
| Relinquished by: (Signature)              | Received by: (Signature)                  | Date: 10/12/18 Time:      |
| Relinquished by: (Signature)              | Received by: (Signature)<br><i>Ed 620</i> | Date: 10/12/18 Time:      |
| Custody Seal Intact?                      |   | Date: Time:               |

Y N None Temp *NA* 1810342

11/19/2018  
Ms. Jaime Dinello  
DeMaximis, Inc  
1340 Reynolds Ave, Suite 105

Irvine CA 92614

Project Name: Omega - GWTS Monthly GAC  
Project #:  
Workorder #: 1811241

Dear Ms. Jaime Dinello

The following report includes the data for the above referenced project for sample(s) received on 11/12/2018 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner  
Project Manager

**A Eurofins Lancaster Laboratories Company**

**WORK ORDER #:** 1811241

## Work Order Summary

|                        |   |                  |   |
|------------------------|---|------------------|---|
| <b>CLIENT:</b>         | Ms. Jaime Dinello<br>DeMaximis, Inc<br>1340 Reynolds Ave, Suite 105<br>Irvine, CA 92614 | <b>BILL TO:</b>  | Mr. Tom Dorsey<br>Omega Chemical Site Environmental<br>Remediation Trust<br>1322 Scott St.<br>Suite 104 |
| <b>PHONE:</b>          | 949.679.9290  | <b>P.O. #</b>    |   |
| <b>FAX:</b>            | 949.679.9078  | <b>PROJECT #</b> | Omega - GWTS Monthly GAC  |
| <b>DATE RECEIVED:</b>  | 11/12/2018  | <b>CONTACT:</b>  | Kelly Buettner  |
| <b>DATE COMPLETED:</b> | 11/19/2018  |                  |   |

| <u>FRACTION #</u> | <u>NAME</u>              | <u>TEST</u> | <u>RECEIPT VAC./PRES.</u> | <u>FINAL PRESSURE</u> |
|-------------------|--------------------------|-------------|---------------------------|-----------------------|
| 01A               | OC_VGAC_EFF_SP242_110918 | TO-15       | 6.5 "Hg                   | 15.5 psi              |
| 02A               | OC_VGAC_INT_SP245_110918 | TO-15       | 2.4 "Hg                   | 15.3 psi              |
| 03A               | OC_VGAC_INF_SP241_110918 | TO-15       | 2.8 "Hg                   | 15.5 psi              |
| 04A               | Lab Blank                | TO-15       | NA                        | NA                    |
| 05A               | CCV                      | TO-15       | NA                        | NA                    |
| 06A               | LCS                      | TO-15       | NA                        | NA                    |
| 06AA              | LCSD                     | TO-15       | NA                        | NA                    |

CERTIFIED BY:

DATE: 11/19/18

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935  
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630  
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE  
EPA Method TO-15  
DeMaximis, Inc  
Workorder# 1811241**

Three 1 Liter Summa Canister samples were received on November 12, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

The TVOC (Total Volatile Organic Compounds) concentration was calculated by taking the total area counts in the sample and quantitating the area based on the response factor of TNMOC ref. to Heptane (MW=100).

#### **Definition of Data Qualifying Flags**

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

## Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

**Client Sample ID: OC\_VGAC\_EFF\_SP242\_110918**

**Lab ID#: 1811241-01A**

| Compound                       | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|--------------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 11                       | 1.3                  | 5.3              | 7.4                   | 30                |
| Freon 113                      | 1.3                  | 20               | 10                    | 160               |
| 1,1-Dichloroethene             | 1.3                  | 20               | 5.2                   | 78                |
| Chloroform                     | 1.3                  | 4.4              | 6.4                   | 21                |
| TNMOC ref. to Heptane (MW=100) | 26                   | 120              | 110                   | 490               |

**Client Sample ID: OC\_VGAC\_INT\_SP245\_110918**

**Lab ID#: 1811241-02A**

| Compound                       | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|--------------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 11                       | 1.1                  | 5.6              | 6.2                   | 31                |
| Freon 113                      | 1.1                  | 22               | 8.5                   | 170               |
| 1,1-Dichloroethene             | 1.1                  | 18               | 4.4                   | 70                |
| Chloroform                     | 1.1                  | 5.8              | 5.4                   | 28                |
| 1,2-Dichloroethane             | 1.1                  | 1.7              | 4.5                   | 6.9               |
| TNMOC ref. to Heptane (MW=100) | 22                   | 140              | 91                    | 570               |

**Client Sample ID: OC\_VGAC\_INF\_SP241\_110918**

**Lab ID#: 1811241-03A**

| Compound                       | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|--------------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 11                       | 1.1                  | 6.2              | 6.3                   | 35                |
| Freon 113                      | 1.1                  | 18               | 8.7                   | 140               |
| 1,1-Dichloroethene             | 1.1                  | 18               | 4.5                   | 73                |
| Chloroform                     | 1.1                  | 6.0              | 5.5                   | 29                |
| Trichloroethene                | 1.1                  | 11               | 6.1                   | 59                |
| Tetrachloroethene              | 1.1                  | 69               | 7.7                   | 470               |
| TNMOC ref. to Heptane (MW=100) | 23                   | 220              | 92                    | 900               |



Air Toxics

Client Sample ID: OC\_VGAC\_EFF\_SP242\_110918

Lab ID#: 1811241-01A

**EPA METHOD TO-15 GC/MS FULL SCAN**

| <b>File Name:</b>                | <b>17111526</b>              | <b>Date of Collection: 11/9/18 11:00:00 AM</b> |                               |                           |
|----------------------------------|------------------------------|--|-------------------------------|---------------------------|
| <b>Dil. Factor:</b>              | <b>2.62</b>                  | <b>Date of Analysis: 11/16/18 03:06 AM</b>     |                               |                           |
| <b>Compound</b>                  | <b>Rpt. Limit<br/>(ppbv)</b> | <b>Amount<br/>(ppbv)</b>                       | <b>Rpt. Limit<br/>(ug/m3)</b> | <b>Amount<br/>(ug/m3)</b> |
| Freon 12                         | 1.3                          | Not Detected                                   | 6.5                           | Not Detected              |
| Vinyl Chloride                   | 1.3                          | Not Detected                                   | 3.3                           | Not Detected              |
| Freon 11                         | 1.3                          | 5.3  | 7.4                           | 30                        |
| Freon 113                        | 1.3                          | 20   | 10                            | 160                       |
| 1,1-Dichloroethene               | 1.3                          | 20   | 5.2                           | 78                        |
| 2-Propanol                       | 5.2                          | Not Detected                                   | 13                            | Not Detected              |
| Carbon Disulfide                 | 5.2                          | Not Detected                                   | 16                            | Not Detected              |
| Methylene Chloride               | 13                           | Not Detected                                   | 46                            | Not Detected              |
| Hexane                           | 1.3                          | Not Detected                                   | 4.6                           | Not Detected              |
| 1,1-Dichloroethane               | 1.3                          | Not Detected                                   | 5.3                           | Not Detected              |
| 2-Butanone (Methyl Ethyl Ketone) | 5.2                          | Not Detected                                   | 15                            | Not Detected              |
| Chloroform                       | 1.3                          | 4.4  | 6.4                           | 21                        |
| 1,1,1-Trichloroethane            | 1.3                          | Not Detected                                   | 7.1                           | Not Detected              |
| Carbon Tetrachloride             | 1.3                          | Not Detected                                   | 8.2                           | Not Detected              |
| Benzene                          | 1.3                          | Not Detected                                   | 4.2                           | Not Detected              |
| 1,2-Dichloroethane               | 1.3                          | Not Detected                                   | 5.3                           | Not Detected              |
| Trichloroethene                  | 1.3                          | Not Detected                                   | 7.0                           | Not Detected              |
| 1,4-Dioxane                      | 5.2                          | Not Detected                                   | 19                            | Not Detected              |
| Toluene                          | 1.3                          | Not Detected                                   | 4.9                           | Not Detected              |
| 1,1,2-Trichloroethane            | 1.3                          | Not Detected                                   | 7.1                           | Not Detected              |
| Tetrachloroethene                | 1.3                          | Not Detected                                   | 8.9                           | Not Detected              |
| o-Xylene                         | 1.3                          | Not Detected                                   | 5.7                           | Not Detected              |
| TNMOC ref. to Heptane (MW=100)   | 26                           | 120  | 110                           | 490                       |

**Container Type: 1 Liter Summa Canister**

| <b>Surrogates</b>     | <b>%Recovery</b> | <b>Method<br/>Limits</b> |
|-----------------------|------------------|--------------------------|
| Toluene-d8            | 103              | 70-130                   |
| 1,2-Dichloroethane-d4 | 98               | 70-130                   |
| 4-Bromofluorobenzene  | 90               | 70-130                   |



Air Toxics

Client Sample ID: OC\_VGAC\_INT\_SP245\_110918

Lab ID#: 1811241-02A

**EPA METHOD TO-15 GC/MS FULL SCAN**

| <b>File Name:</b>                | <b>17111527</b>              | <b>Date of Collection: 11/9/18 11:02:00 AM</b> |                               |                           |
|----------------------------------|------------------------------|--|-------------------------------|---------------------------|
| <b>Dil. Factor:</b>              | <b>2.22</b>                  | <b>Date of Analysis: 11/16/18 03:35 AM</b>     |                               |                           |
| <b>Compound</b>                  | <b>Rpt. Limit<br/>(ppbv)</b> | <b>Amount<br/>(ppbv)</b>                       | <b>Rpt. Limit<br/>(ug/m3)</b> | <b>Amount<br/>(ug/m3)</b> |
| Freon 12                         | 1.1                          | Not Detected                                   | 5.5                           | Not Detected              |
| Vinyl Chloride                   | 1.1                          | Not Detected                                   | 2.8                           | Not Detected              |
| Freon 11                         | 1.1                          | 5.6  | 6.2                           | 31                        |
| Freon 113                        | 1.1                          | 22   | 8.5                           | 170                       |
| 1,1-Dichloroethene               | 1.1                          | 18   | 4.4                           | 70                        |
| 2-Propanol                       | 4.4                          | Not Detected                                   | 11                            | Not Detected              |
| Carbon Disulfide                 | 4.4                          | Not Detected                                   | 14                            | Not Detected              |
| Methylene Chloride               | 11                           | Not Detected                                   | 38                            | Not Detected              |
| Hexane                           | 1.1                          | Not Detected                                   | 3.9                           | Not Detected              |
| 1,1-Dichloroethane               | 1.1                          | Not Detected                                   | 4.5                           | Not Detected              |
| 2-Butanone (Methyl Ethyl Ketone) | 4.4                          | Not Detected                                   | 13                            | Not Detected              |
| Chloroform                       | 1.1                          | 5.8  | 5.4                           | 28                        |
| 1,1,1-Trichloroethane            | 1.1                          | Not Detected                                   | 6.0                           | Not Detected              |
| Carbon Tetrachloride             | 1.1                          | Not Detected                                   | 7.0                           | Not Detected              |
| Benzene                          | 1.1                          | Not Detected                                   | 3.5                           | Not Detected              |
| 1,2-Dichloroethane               | 1.1                          | 1.7  | 4.5                           | 6.9                       |
| Trichloroethene                  | 1.1                          | Not Detected                                   | 6.0                           | Not Detected              |
| 1,4-Dioxane                      | 4.4                          | Not Detected                                   | 16                            | Not Detected              |
| Toluene                          | 1.1                          | Not Detected                                   | 4.2                           | Not Detected              |
| 1,1,2-Trichloroethane            | 1.1                          | Not Detected                                   | 6.0                           | Not Detected              |
| Tetrachloroethene                | 1.1                          | Not Detected                                   | 7.5                           | Not Detected              |
| o-Xylene                         | 1.1                          | Not Detected                                   | 4.8                           | Not Detected              |
| TNMOC ref. to Heptane (MW=100)   | 22                           | 140  | 91                            | 570                       |

**Container Type: 1 Liter Summa Canister**

| <b>Surrogates</b>     | <b>%Recovery</b> | <b>Method<br/>Limits</b> |
|-----------------------|------------------|--------------------------|
| Toluene-d8            | 104              | 70-130                   |
| 1,2-Dichloroethane-d4 | 97               | 70-130                   |
| 4-Bromofluorobenzene  | 89               | 70-130                   |



Air Toxics

Client Sample ID: OC\_VGAC\_INF\_SP241\_110918

Lab ID#: 1811241-03A

**EPA METHOD TO-15 GC/MS FULL SCAN**

| <b>File Name:</b>                | <b>17111528</b>              | <b>Date of Collection: 11/9/18 11:02:00 AM</b> |                               |                           |
|----------------------------------|------------------------------|--|-------------------------------|---------------------------|
| <b>Dil. Factor:</b>              | <b>2.26</b>                  | <b>Date of Analysis: 11/16/18 04:03 AM</b>     |                               |                           |
| <b>Compound</b>                  | <b>Rpt. Limit<br/>(ppbv)</b> | <b>Amount<br/>(ppbv)</b>                       | <b>Rpt. Limit<br/>(ug/m3)</b> | <b>Amount<br/>(ug/m3)</b> |
| Freon 12                         | 1.1                          | Not Detected                                   | 5.6                           | Not Detected              |
| Vinyl Chloride                   | 1.1                          | Not Detected                                   | 2.9                           | Not Detected              |
| Freon 11                         | 1.1                          | 6.2  | 6.3                           | 35                        |
| Freon 113                        | 1.1                          | 18   | 8.7                           | 140                       |
| 1,1-Dichloroethene               | 1.1                          | 18   | 4.5                           | 73                        |
| 2-Propanol                       | 4.5                          | Not Detected                                   | 11                            | Not Detected              |
| Carbon Disulfide                 | 4.5                          | Not Detected                                   | 14                            | Not Detected              |
| Methylene Chloride               | 11                           | Not Detected                                   | 39                            | Not Detected              |
| Hexane                           | 1.1                          | Not Detected                                   | 4.0                           | Not Detected              |
| 1,1-Dichloroethane               | 1.1                          | Not Detected                                   | 4.6                           | Not Detected              |
| 2-Butanone (Methyl Ethyl Ketone) | 4.5                          | Not Detected                                   | 13                            | Not Detected              |
| Chloroform                       | 1.1                          | 6.0  | 5.5                           | 29                        |
| 1,1,1-Trichloroethane            | 1.1                          | Not Detected                                   | 6.2                           | Not Detected              |
| Carbon Tetrachloride             | 1.1                          | Not Detected                                   | 7.1                           | Not Detected              |
| Benzene                          | 1.1                          | Not Detected                                   | 3.6                           | Not Detected              |
| 1,2-Dichloroethane               | 1.1                          | Not Detected                                   | 4.6                           | Not Detected              |
| Trichloroethene                  | 1.1                          | 11   | 6.1                           | 59                        |
| 1,4-Dioxane                      | 4.5                          | Not Detected                                   | 16                            | Not Detected              |
| Toluene                          | 1.1                          | Not Detected                                   | 4.2                           | Not Detected              |
| 1,1,2-Trichloroethane            | 1.1                          | Not Detected                                   | 6.2                           | Not Detected              |
| Tetrachloroethene                | 1.1                          | 69   | 7.7                           | 470                       |
| o-Xylene                         | 1.1                          | Not Detected                                   | 4.9                           | Not Detected              |
| TNMOC ref. to Heptane (MW=100)   | 23                           | 220  | 92                            | 900                       |

**Container Type: 1 Liter Summa Canister**

| <b>Surrogates</b>     | <b>%Recovery</b> | <b>Method<br/>Limits</b> |
|-----------------------|------------------|--------------------------|
| Toluene-d8            | 104              | 70-130                   |
| 1,2-Dichloroethane-d4 | 98               | 70-130                   |
| 4-Bromofluorobenzene  | 89               | 70-130                   |



Air Toxics

## Client Sample ID: Lab Blank

Lab ID#: 1811241-04A

## EPA METHOD TO-15 GC/MS FULL SCAN

| <b>File Name:</b>                | <b>17111506</b>      | <b>Date of Collection: NA</b>              |                       |                   |
|----------------------------------|----------------------|--|-----------------------|-------------------|
| <b>Dil. Factor:</b>              | <b>1.00</b>          | <b>Date of Analysis: 11/15/18 02:21 PM</b> |                       |                   |
| Compound                         | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv)                           | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
| Freon 12                         | 0.50                 | Not Detected                               | 2.5                   | Not Detected      |
| Vinyl Chloride                   | 0.50                 | Not Detected                               | 1.3                   | Not Detected      |
| Freon 11                         | 0.50                 | Not Detected                               | 2.8                   | Not Detected      |
| Freon 113                        | 0.50                 | Not Detected                               | 3.8                   | Not Detected      |
| 1,1-Dichloroethene               | 0.50                 | Not Detected                               | 2.0                   | Not Detected      |
| 2-Propanol                       | 2.0                  | Not Detected                               | 4.9                   | Not Detected      |
| Carbon Disulfide                 | 2.0                  | Not Detected                               | 6.2                   | Not Detected      |
| Methylene Chloride               | 5.0                  | Not Detected                               | 17                    | Not Detected      |
| Hexane                           | 0.50                 | Not Detected                               | 1.8                   | Not Detected      |
| 1,1-Dichloroethane               | 0.50                 | Not Detected                               | 2.0                   | Not Detected      |
| 2-Butanone (Methyl Ethyl Ketone) | 2.0                  | Not Detected                               | 5.9                   | Not Detected      |
| Chloroform                       | 0.50                 | Not Detected                               | 2.4                   | Not Detected      |
| 1,1,1-Trichloroethane            | 0.50                 | Not Detected                               | 2.7                   | Not Detected      |
| Carbon Tetrachloride             | 0.50                 | Not Detected                               | 3.1                   | Not Detected      |
| Benzene                          | 0.50                 | Not Detected                               | 1.6                   | Not Detected      |
| 1,2-Dichloroethane               | 0.50                 | Not Detected                               | 2.0                   | Not Detected      |
| Trichloroethene                  | 0.50                 | Not Detected                               | 2.7                   | Not Detected      |
| 1,4-Dioxane                      | 2.0                  | Not Detected                               | 7.2                   | Not Detected      |
| Toluene                          | 0.50                 | Not Detected                               | 1.9                   | Not Detected      |
| 1,1,2-Trichloroethane            | 0.50                 | Not Detected                               | 2.7                   | Not Detected      |
| Tetrachloroethene                | 0.50                 | Not Detected                               | 3.4                   | Not Detected      |
| o-Xylene                         | 0.50                 | Not Detected                               | 2.2                   | Not Detected      |
| TNMOC ref. to Heptane (MW=100)   | 10                   | Not Detected                               | 41                    | Not Detected      |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8            | 104       | 70-130        |
| 1,2-Dichloroethane-d4 | 98        | 70-130        |
| 4-Bromofluorobenzene  | 88        | 70-130        |



Air Toxics

Client Sample ID: CCV

Lab ID#: 1811241-05A

**EPA METHOD TO-15 GC/MS FULL SCAN**

|              |          |                     |                   |
|--------------|----------|---------------------|-------------------|
| File Name:   | 17111502 | Date of Collection: | NA                |
| Dil. Factor: | 1.00     | Date of Analysis:   | 11/15/18 11:28 AM |

| Compound                         | %Recovery |
|----------------------------------|-----------|
| Freon 12                         | 105       |
| Vinyl Chloride                   | 100       |
| Freon 11                         | 93        |
| Freon 113                        | 93        |
| 1,1-Dichloroethene               | 96        |
| 2-Propanol                       | 94        |
| Carbon Disulfide                 | 101       |
| Methylene Chloride               | 95        |
| Hexane                           | 95        |
| 1,1-Dichloroethane               | 100       |
| 2-Butanone (Methyl Ethyl Ketone) | 102       |
| Chloroform                       | 104       |
| 1,1,1-Trichloroethane            | 100       |
| Carbon Tetrachloride             | 95        |
| Benzene                          | 108       |
| 1,2-Dichloroethane               | 106       |
| Trichloroethene                  | 105       |
| 1,4-Dioxane                      | 107       |
| Toluene                          | 106       |
| 1,1,2-Trichloroethane            | 108       |
| Tetrachloroethene                | 97        |
| o-Xylene                         | 101       |
| TNMOC ref. to Heptane (MW=100)   | 100       |

**Container Type: NA - Not Applicable**

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8            | 104       | 70-130        |
| 1,2-Dichloroethane-d4 | 100       | 70-130        |
| 4-Bromofluorobenzene  | 90        | 70-130        |



Air Toxics

Client Sample ID: LCS

Lab ID#: 1811241-06A

**EPA METHOD TO-15 GC/MS FULL SCAN**

| File Name:                       | 17111503   | Date of Collection: | NA                |
|----------------------------------|------------|---------------------|-------------------|
| Dil. Factor:                     | 1.00       | Date of Analysis:   | 11/15/18 12:05 PM |
| Compound                         | %Recovery  | Method              | Limits            |
| Freon 12                         | 107        | 70-130              |                   |
| Vinyl Chloride                   | 103        | 70-130              |                   |
| Freon 11                         | 94         | 70-130              |                   |
| Freon 113                        | 91         | 70-130              |                   |
| 1,1-Dichloroethene               | 95         | 70-130              |                   |
| 2-Propanol                       | 95         | 70-130              |                   |
| Carbon Disulfide                 | 104        | 70-130              |                   |
| Methylene Chloride               | 96         | 70-130              |                   |
| Hexane                           | 97         | 70-130              |                   |
| 1,1-Dichloroethane               | 98         | 70-130              |                   |
| 2-Butanone (Methyl Ethyl Ketone) | 102        | 70-130              |                   |
| Chloroform                       | 103        | 70-130              |                   |
| 1,1,1-Trichloroethane            | 100        | 70-130              |                   |
| Carbon Tetrachloride             | 96         | 70-130              |                   |
| Benzene                          | 107        | 70-130              |                   |
| 1,2-Dichloroethane               | 102        | 70-130              |                   |
| Trichloroethene                  | 107        | 70-130              |                   |
| 1,4-Dioxane                      | 108        | 70-130              |                   |
| Toluene                          | 106        | 70-130              |                   |
| 1,1,2-Trichloroethane            | 108        | 70-130              |                   |
| Tetrachloroethene                | 95         | 70-130              |                   |
| o-Xylene                         | 101        | 70-130              |                   |
| TNMOC ref. to Heptane (MW=100)   | Not Spiked |                     |                   |

**Container Type: NA - Not Applicable**

| Surrogates            | %Recovery | Method | Limits |
|-----------------------|-----------|--------|--------|
| Toluene-d8            | 105       | 70-130 |        |
| 1,2-Dichloroethane-d4 | 102       | 70-130 |        |
| 4-Bromofluorobenzene  | 92        | 70-130 |        |



Air Toxics

Client Sample ID: LCSD

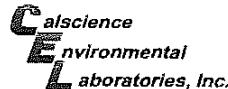
Lab ID#: 1811241-06AA

**EPA METHOD TO-15 GC/MS FULL SCAN**

| File Name:                       | 17111504   | Date of Collection: | NA                |
|----------------------------------|------------|---------------------|-------------------|
| Dil. Factor:                     | 1.00       | Date of Analysis:   | 11/15/18 12:31 PM |
| Compound                         | %Recovery  | Method              | Limits            |
| Freon 12                         | 104        | 70-130              |                   |
| Vinyl Chloride                   | 101        | 70-130              |                   |
| Freon 11                         | 93         | 70-130              |                   |
| Freon 113                        | 90         | 70-130              |                   |
| 1,1-Dichloroethene               | 93         | 70-130              |                   |
| 2-Propanol                       | 94         | 70-130              |                   |
| Carbon Disulfide                 | 102        | 70-130              |                   |
| Methylene Chloride               | 93         | 70-130              |                   |
| Hexane                           | 97         | 70-130              |                   |
| 1,1-Dichloroethane               | 98         | 70-130              |                   |
| 2-Butanone (Methyl Ethyl Ketone) | 104        | 70-130              |                   |
| Chloroform                       | 102        | 70-130              |                   |
| 1,1,1-Trichloroethane            | 100        | 70-130              |                   |
| Carbon Tetrachloride             | 96         | 70-130              |                   |
| Benzene                          | 107        | 70-130              |                   |
| 1,2-Dichloroethane               | 103        | 70-130              |                   |
| Trichloroethene                  | 107        | 70-130              |                   |
| 1,4-Dioxane                      | 108        | 70-130              |                   |
| Toluene                          | 106        | 70-130              |                   |
| 1,1,2-Trichloroethane            | 111        | 70-130              |                   |
| Tetrachloroethene                | 97         | 70-130              |                   |
| o-Xylene                         | 102        | 70-130              |                   |
| TNMOC ref. to Heptane (MW=100)   | Not Spiked |                     |                   |

**Container Type: NA - Not Applicable**

| Surrogates            | %Recovery | Method | Limits |
|-----------------------|-----------|--------|--------|
| Toluene-d8            | 104       | 70-130 |        |
| 1,2-Dichloroethane-d4 | 100       | 70-130 |        |
| 4-Bromofluorobenzene  | 93        | 70-130 |        |



7440 LINCOLN WAY  
GARDEN GROVE, CA 92841-1427  
TEL: (714) 895-5494 . FAX: (714) 894-7601

### AIR CHAIN OF CUSTODY RECORD

DATE: 11/09/18  
PAGE: 1 OF 1

| LABORATORY CLIENT:<br>de maximis   |                                  |  |   | CLIENT PROJECT NAME / NUMBER:<br>Omega - GWTS Monthly GAC |                              |                           |                            | P.O. NO.:                  |                               |                           |                      |                               |   |  |  |
|--|----------------------------------|--|---|---|------------------------------|---------------------------|----------------------------|----------------------------|-------------------------------|---------------------------|----------------------|-------------------------------|---|--|--|
| ADDRESS:<br>1322 Scott St., Suite 104  |                                  |  |   | PROJECT ADDRESS:<br>12520 Whittier Blvd.                  |                              |                           |                            | LAB CONTACT OR QUOTE NO.:  |                               |                           |                      |                               |   |  |  |
| CITY: San Diego  |                                  | STATE: CA  | ZIP: 92106                                  | CITY: Whittier  |                              | STATE: CA                 | ZIP: 90602                 | LAB USE ONLY               |                               |                           |                      |                               |   |  |  |
| TEL:<br>(562) 756-8149   | EMAIL:<br>jdinello@demaximis.com | PROJECT CONTACT: Trent Henderson thenderson@jacobandhefner.com |   |   |                              |                           |                            |                            |                               |                           |                      |                               |   |  |  |
| TURNAROUND TIME:<br><input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input checked="" type="checkbox"/> 5 DAYS <input type="checkbox"/> 10 DAYS |                                  |  |   | SAMPLER(S): (NAME / SIGNATURE)<br>Khalid Arher            |                              |                           |                            | REQUESTED ANALYSES         |                               |                           |                      |                               |   |  |  |
| SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)<br><input checked="" type="checkbox"/> EDD   |                                  |  |   |   |                              |                           |                            |                            |                               |                           |                      | TO-15 (TAL 2.3)               |   |  |  |
| SPECIAL INSTRUCTIONS:  |                                  |  |   |   |                              |                           |                            |                            |                               |                           |                      |                               |   |  |  |
| LAB<br>USE<br>ONLY   | SAMPLE ID                        | FIELD ID /<br>Point of Collection                              | Air Type                                    | Sampling Equipment Info                                   |                              |                           | Start Sampling Information |                            |                               | Stop Sampling Information |                      |                               |   |  |  |
|  |                                  |  | (I) Indoor<br>(SV) Soil Vap.<br>(A) Ambient | Canister<br>ID#   | Canister<br>Size<br>6L or 1L | Flow<br>Controller<br>ID# | Date                       | Time<br>(24hr clock)       | Canister<br>Pressure<br>(^Hg) | Date                      | Time<br>(24hr clock) | Canister<br>Pressure<br>(^Hg) |   |  |  |
| 01A  | OC_VGAC_EFF_SP242_110918         | SP-EFF-GAC   | Vapor                                       | IL2658  | 1L                           | 23354                     | 11/9/2018                  | 1055                       | -27                           | 11/9/2018                 | 1102                 | -5                            | x |  |  |
| 02A  | OC_VGAC_INT_SP245_110918         | SP-MID-GAC   | Vapor                                       | IL3162  | 1L                           | 24326                     | 11/9/2018                  | 1056                       | -30                           | 11/9/2018                 | 1102                 | -5                            | x |  |  |
| 03A  | OC_VGAC_INF_SP241_110918         | SP-INF-GAC   | Vapor                                       | 40851   | 1L                           | 23337                     | 11/9/2018                  | 1057                       | -30                           | 11/9/2018                 | 1102                 | -5                            | x |  |  |
| 4  |                                  |  |   |   |                              |                           |                            |                            |                               |                           |                      |                               |   |  |  |
| 5  |                                  |  |   |   |                              |                           |                            |                            |                               |                           |                      |                               |   |  |  |
| 6  |                                  |  |   |   |                              |                           |                            |                            |                               |                           |                      |                               |   |  |  |
| 7  |                                  |  |   |   |                              |                           |                            |                            |                               |                           |                      |                               |   |  |  |
| 8  |                                  |  |   |   |                              |                           |                            |                            |                               |                           |                      |                               |   |  |  |
| 9  |                                  |  |   |   |                              |                           |                            |                            |                               |                           |                      |                               |   |  |  |
| 10   |                                  |  |   |   |                              |                           |                            |                            |                               |                           |                      |                               |   |  |  |
| 11   |                                  |  |   |   |                              |                           |                            |                            |                               |                           |                      |                               |   |  |  |
| 12   |                                  |  |   |   |                              |                           |                            |                            |                               |                           |                      |                               |   |  |  |
| 13   |                                  |  |   |   |                              |                           |                            |                            |                               |                           |                      |                               |   |  |  |
| 14   |                                  |  |   |   |                              |                           |                            |                            |                               |                           |                      |                               |   |  |  |
| 15   |                                  |  |   |   |                              |                           |                            |                            |                               |                           |                      |                               |   |  |  |
| Relinquished by: (Signature)   |                                  |  |   | Received by: (Signature)                                  |                              |                           |                            | Date: 11/12/18 Time: 09:35 |                               |                           |                      |                               |   |  |  |
| Relinquished by: (Signature)   |                                  |  |   | Received by: (Signature)                                  |                              |                           |                            | Date: Time:                |                               |                           |                      |                               |   |  |  |
| Relinquished by: (Signature)   |                                  |  |   | Received by: (Signature)                                  |                              |                           |                            | Date: Time:                |                               |                           |                      |                               |   |  |  |

181124

Red EX  
Custody Seal Intact?

✓ N None Temp 111

1/3/2019  
Ms. Jaime Dinello  
DeMaximis, Inc  
1340 Reynolds Ave, Suite 105

Irvine CA 92614

Project Name: Omega - GWTS Monthly GAC  
Project #:  
Workorder #: 1812559

Dear Ms. Jaime Dinello

The following report includes the data for the above referenced project for sample(s) received on 12/26/2018 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner  
Project Manager

**A Eurofins Lancaster Laboratories Company**

**WORK ORDER #:** 1812559

## Work Order Summary

|                        |   |                  |   |
|------------------------|---|------------------|---|
| <b>CLIENT:</b>         | Ms. Jaime Dinello<br>DeMaximis, Inc<br>1340 Reynolds Ave, Suite 105<br>Irvine, CA 92614 | <b>BILL TO:</b>  | Mr. Tom Dorsey<br>Omega Chemical Site Environmental<br>Remediation Trust<br>1322 Scott St.<br>Suite 104 |
| <b>PHONE:</b>          | 949.679.9290  | <b>P.O. #</b>    |   |
| <b>FAX:</b>            | 949.679.9078  | <b>PROJECT #</b> | Omega - GWTS Monthly GAC  |
| <b>DATE RECEIVED:</b>  | 12/26/2018  | <b>CONTACT:</b>  | Kelly Buettner  |
| <b>DATE COMPLETED:</b> | 01/02/2019  |                  |   |

| <u>FRACTION #</u> | <u>NAME</u>              | <u>TEST</u> | <u>RECEIPT VAC./PRES.</u> | <u>FINAL PRESSURE</u> |
|-------------------|--------------------------|-------------|---------------------------|-----------------------|
| 01A               | OC_VGAC_EFF_SP242_121818 | TO-15       | 1.4 "Hg                   | 15.2 psi              |
| 02A               | OC_VGAC_INT_SP245_121818 | TO-15       | 3.3 "Hg                   | 15.2 psi              |
| 03A               | OC_VGAC_INF_SP241_121818 | TO-15       | 2.8 "Hg                   | 15.3 psi              |
| 04A               | Lab Blank                | TO-15       | NA                        | NA                    |
| 05A               | CCV                      | TO-15       | NA                        | NA                    |
| 06A               | LCS                      | TO-15       | NA                        | NA                    |
| 06AA              | LCSD                     | TO-15       | NA                        | NA                    |

CERTIFIED BY:

DATE: 01/02/19

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935  
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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**LABORATORY NARRATIVE  
EPA Method TO-15  
DeMaximis, Inc  
Workorder# 1812559**

Three 1 Liter Summa Canister samples were received on December 26, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

The TNMOC concentration was calculated by taking the total area counts in the sample and quantitating the area based on the response factor of Heptane.

#### **Definition of Data Qualifying Flags**

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

**Summary of Detected Compounds  
EPA METHOD TO-15 GC/MS FULL SCAN**

**Client Sample ID: OC\_VGAC\_EFF\_SP242\_121818**

**Lab ID#: 1812559-01A**

| Compound                       | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|--------------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 11                       | 1.1                  | 4.1              | 6.0                   | 23                |
| Freon 113                      | 1.1                  | 16               | 8.2                   | 120               |
| 1,1-Dichloroethene             | 1.1                  | 13               | 4.2                   | 51                |
| Chloroform                     | 1.1                  | 2.8              | 5.2                   | 14                |
| TNMOC ref. to Heptane (MW=100) | 21                   | 34               | 87                    | 140               |

**Client Sample ID: OC\_VGAC\_INT\_SP245\_121818**

**Lab ID#: 1812559-02A**

| Compound           | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|--------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 11           | 1.1                  | 4.4              | 6.4                   | 25                |
| Freon 113          | 1.1                  | 17               | 8.7                   | 130               |
| 1,1-Dichloroethene | 1.1                  | 12               | 4.5                   | 47                |
| Chloroform         | 1.1                  | 4.0              | 5.6                   | 19                |
| 1,2-Dichloroethane | 1.1                  | 1.2              | 4.6                   | 4.8               |

**Client Sample ID: OC\_VGAC\_INF\_SP241\_121818**

**Lab ID#: 1812559-03A**

| Compound                       | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv) | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
|--------------------------------|----------------------|------------------|-----------------------|-------------------|
| Freon 11                       | 1.1                  | 5.4              | 6.3                   | 30                |
| Freon 113                      | 1.1                  | 22               | 8.6                   | 170               |
| 1,1-Dichloroethene             | 1.1                  | 15               | 4.5                   | 60                |
| Chloroform                     | 1.1                  | 4.4              | 5.5                   | 21                |
| Trichloroethene                | 1.1                  | 9.1              | 6.0                   | 49                |
| Tetrachloroethene              | 1.1                  | 62               | 7.6                   | 420               |
| TNMOC ref. to Heptane (MW=100) | 22                   | 110              | 92                    | 450               |



Air Toxics

Client Sample ID: OC\_VGAC\_EFF\_SP242\_121818

Lab ID#: 1812559-01A

**EPA METHOD TO-15 GC/MS FULL SCAN**

| <b>File Name:</b>                | <b>p123108</b>               | <b>Date of Collection:</b> 12/18/18 11:43:00 A |                               |                           |
|----------------------------------|------------------------------|--|-------------------------------|---------------------------|
| <b>Dil. Factor:</b>              | <b>2.13</b>                  | <b>Date of Analysis:</b> 12/31/18 03:51 PM     |                               |                           |
| <b>Compound</b>                  | <b>Rpt. Limit<br/>(ppbv)</b> | <b>Amount<br/>(ppbv)</b>                       | <b>Rpt. Limit<br/>(ug/m3)</b> | <b>Amount<br/>(ug/m3)</b> |
| Freon 12                         | 1.1                          | Not Detected                                   | 5.3                           | Not Detected              |
| Vinyl Chloride                   | 1.1                          | Not Detected                                   | 2.7                           | Not Detected              |
| Freon 11                         | 1.1                          | 4.1  | 6.0                           | 23                        |
| Freon 113                        | 1.1                          | 16   | 8.2                           | 120                       |
| 1,1-Dichloroethene               | 1.1                          | 13   | 4.2                           | 51                        |
| 2-Propanol                       | 4.3                          | Not Detected                                   | 10                            | Not Detected              |
| Carbon Disulfide                 | 4.3                          | Not Detected                                   | 13                            | Not Detected              |
| Methylene Chloride               | 11                           | Not Detected                                   | 37                            | Not Detected              |
| Hexane                           | 1.1                          | Not Detected                                   | 3.8                           | Not Detected              |
| 1,1-Dichloroethane               | 1.1                          | Not Detected                                   | 4.3                           | Not Detected              |
| 2-Butanone (Methyl Ethyl Ketone) | 4.3                          | Not Detected                                   | 12                            | Not Detected              |
| Chloroform                       | 1.1                          | 2.8  | 5.2                           | 14                        |
| 1,1,1-Trichloroethane            | 1.1                          | Not Detected                                   | 5.8                           | Not Detected              |
| Carbon Tetrachloride             | 1.1                          | Not Detected                                   | 6.7                           | Not Detected              |
| Benzene                          | 1.1                          | Not Detected                                   | 3.4                           | Not Detected              |
| 1,2-Dichloroethane               | 1.1                          | Not Detected                                   | 4.3                           | Not Detected              |
| Trichloroethene                  | 1.1                          | Not Detected                                   | 5.7                           | Not Detected              |
| 1,4-Dioxane                      | 4.3                          | Not Detected                                   | 15                            | Not Detected              |
| Toluene                          | 1.1                          | Not Detected                                   | 4.0                           | Not Detected              |
| 1,1,2-Trichloroethane            | 1.1                          | Not Detected                                   | 5.8                           | Not Detected              |
| Tetrachloroethene                | 1.1                          | Not Detected                                   | 7.2                           | Not Detected              |
| o-Xylene                         | 1.1                          | Not Detected                                   | 4.6                           | Not Detected              |
| TNMOC ref. to Heptane (MW=100)   | 21                           | 34   | 87                            | 140                       |

**Container Type: 1 Liter Summa Canister**

| <b>Surrogates</b>     | <b>%Recovery</b> | <b>Method<br/>Limits</b> |
|-----------------------|------------------|--------------------------|
| Toluene-d8            | 99               | 70-130                   |
| 1,2-Dichloroethane-d4 | 100              | 70-130                   |
| 4-Bromofluorobenzene  | 97               | 70-130                   |



Air Toxics

Client Sample ID: OC\_VGAC\_INT\_SP245\_121818

Lab ID#: 1812559-02A

**EPA METHOD TO-15 GC/MS FULL SCAN**

| <b>File Name:</b>                | <b>p123109</b>               | <b>Date of Collection:</b> 12/18/18 11:43:00 A |                               |                           |
|----------------------------------|------------------------------|--|-------------------------------|---------------------------|
| <b>Dil. Factor:</b>              | <b>2.28</b>                  | <b>Date of Analysis:</b> 12/31/18 04:17 PM     |                               |                           |
| <b>Compound</b>                  | <b>Rpt. Limit<br/>(ppbv)</b> | <b>Amount<br/>(ppbv)</b>                       | <b>Rpt. Limit<br/>(ug/m3)</b> | <b>Amount<br/>(ug/m3)</b> |
| Freon 12                         | 1.1                          | Not Detected                                   | 5.6                           | Not Detected              |
| Vinyl Chloride                   | 1.1                          | Not Detected                                   | 2.9                           | Not Detected              |
| Freon 11                         | 1.1                          | 4.4  | 6.4                           | 25                        |
| Freon 113                        | 1.1                          | 17   | 8.7                           | 130                       |
| 1,1-Dichloroethene               | 1.1                          | 12   | 4.5                           | 47                        |
| 2-Propanol                       | 4.6                          | Not Detected                                   | 11                            | Not Detected              |
| Carbon Disulfide                 | 4.6                          | Not Detected                                   | 14                            | Not Detected              |
| Methylene Chloride               | 11                           | Not Detected                                   | 40                            | Not Detected              |
| Hexane                           | 1.1                          | Not Detected                                   | 4.0                           | Not Detected              |
| 1,1-Dichloroethane               | 1.1                          | Not Detected                                   | 4.6                           | Not Detected              |
| 2-Butanone (Methyl Ethyl Ketone) | 4.6                          | Not Detected                                   | 13                            | Not Detected              |
| Chloroform                       | 1.1                          | 4.0  | 5.6                           | 19                        |
| 1,1,1-Trichloroethane            | 1.1                          | Not Detected                                   | 6.2                           | Not Detected              |
| Carbon Tetrachloride             | 1.1                          | Not Detected                                   | 7.2                           | Not Detected              |
| Benzene                          | 1.1                          | Not Detected                                   | 3.6                           | Not Detected              |
| 1,2-Dichloroethane               | 1.1                          | 1.2  | 4.6                           | 4.8                       |
| Trichloroethene                  | 1.1                          | Not Detected                                   | 6.1                           | Not Detected              |
| 1,4-Dioxane                      | 4.6                          | Not Detected                                   | 16                            | Not Detected              |
| Toluene                          | 1.1                          | Not Detected                                   | 4.3                           | Not Detected              |
| 1,1,2-Trichloroethane            | 1.1                          | Not Detected                                   | 6.2                           | Not Detected              |
| Tetrachloroethene                | 1.1                          | Not Detected                                   | 7.7                           | Not Detected              |
| o-Xylene                         | 1.1                          | Not Detected                                   | 5.0                           | Not Detected              |
| TNMOC ref. to Heptane (MW=100)   | 23                           | Not Detected                                   | 93                            | Not Detected              |

**Container Type: 1 Liter Summa Canister**

| <b>Surrogates</b>     | <b>%Recovery</b> | <b>Method<br/>Limits</b> |
|-----------------------|------------------|--------------------------|
| Toluene-d8            | 97               | 70-130                   |
| 1,2-Dichloroethane-d4 | 98               | 70-130                   |
| 4-Bromofluorobenzene  | 98               | 70-130                   |



Air Toxics

Client Sample ID: OC\_VGAC\_INF\_SP241\_121818

Lab ID#: 1812559-03A

**EPA METHOD TO-15 GC/MS FULL SCAN**

| <b>File Name:</b>                | <b>p123110</b>               | <b>Date of Collection:</b> 12/18/18 11:45:00 A |                               |                           |
|----------------------------------|------------------------------|--|-------------------------------|---------------------------|
| <b>Dil. Factor:</b>              | <b>2.25</b>                  | <b>Date of Analysis:</b> 12/31/18 04:43 PM     |                               |                           |
| <b>Compound</b>                  | <b>Rpt. Limit<br/>(ppbv)</b> | <b>Amount<br/>(ppbv)</b>                       | <b>Rpt. Limit<br/>(ug/m3)</b> | <b>Amount<br/>(ug/m3)</b> |
| Freon 12                         | 1.1                          | Not Detected                                   | 5.6                           | Not Detected              |
| Vinyl Chloride                   | 1.1                          | Not Detected                                   | 2.9                           | Not Detected              |
| Freon 11                         | 1.1                          | 5.4  | 6.3                           | 30                        |
| Freon 113                        | 1.1                          | 22   | 8.6                           | 170                       |
| 1,1-Dichloroethene               | 1.1                          | 15   | 4.5                           | 60                        |
| 2-Propanol                       | 4.5                          | Not Detected                                   | 11                            | Not Detected              |
| Carbon Disulfide                 | 4.5                          | Not Detected                                   | 14                            | Not Detected              |
| Methylene Chloride               | 11                           | Not Detected                                   | 39                            | Not Detected              |
| Hexane                           | 1.1                          | Not Detected                                   | 4.0                           | Not Detected              |
| 1,1-Dichloroethane               | 1.1                          | Not Detected                                   | 4.6                           | Not Detected              |
| 2-Butanone (Methyl Ethyl Ketone) | 4.5                          | Not Detected                                   | 13                            | Not Detected              |
| Chloroform                       | 1.1                          | 4.4  | 5.5                           | 21                        |
| 1,1,1-Trichloroethane            | 1.1                          | Not Detected                                   | 6.1                           | Not Detected              |
| Carbon Tetrachloride             | 1.1                          | Not Detected                                   | 7.1                           | Not Detected              |
| Benzene                          | 1.1                          | Not Detected                                   | 3.6                           | Not Detected              |
| 1,2-Dichloroethane               | 1.1                          | Not Detected                                   | 4.6                           | Not Detected              |
| Trichloroethene                  | 1.1                          | 9.1  | 6.0                           | 49                        |
| 1,4-Dioxane                      | 4.5                          | Not Detected                                   | 16                            | Not Detected              |
| Toluene                          | 1.1                          | Not Detected                                   | 4.2                           | Not Detected              |
| 1,1,2-Trichloroethane            | 1.1                          | Not Detected                                   | 6.1                           | Not Detected              |
| Tetrachloroethene                | 1.1                          | 62   | 7.6                           | 420                       |
| o-Xylene                         | 1.1                          | Not Detected                                   | 4.9                           | Not Detected              |
| TNMOC ref. to Heptane (MW=100)   | 22                           | 110  | 92                            | 450                       |

**Container Type: 1 Liter Summa Canister**

| <b>Surrogates</b>     | <b>%Recovery</b> | <b>Method<br/>Limits</b> |
|-----------------------|------------------|--------------------------|
| Toluene-d8            | 96               | 70-130                   |
| 1,2-Dichloroethane-d4 | 99               | 70-130                   |
| 4-Bromofluorobenzene  | 97               | 70-130                   |



Air Toxics

## Client Sample ID: Lab Blank

Lab ID#: 1812559-04A

## EPA METHOD TO-15 GC/MS FULL SCAN

| File Name:                       | p123105              | Date of Collection: NA              |                       |                   |
|----------------------------------|----------------------|-------------------------------------|-----------------------|-------------------|
| Dil. Factor:                     | 1.00                 | Date of Analysis: 12/31/18 12:26 PM |                       |                   |
| Compound                         | Rpt. Limit<br>(ppbv) | Amount<br>(ppbv)                    | Rpt. Limit<br>(ug/m3) | Amount<br>(ug/m3) |
| Freon 12                         | 0.50                 | Not Detected                        | 2.5                   | Not Detected      |
| Vinyl Chloride                   | 0.50                 | Not Detected                        | 1.3                   | Not Detected      |
| Freon 11                         | 0.50                 | Not Detected                        | 2.8                   | Not Detected      |
| Freon 113                        | 0.50                 | Not Detected                        | 3.8                   | Not Detected      |
| 1,1-Dichloroethene               | 0.50                 | Not Detected                        | 2.0                   | Not Detected      |
| 2-Propanol                       | 2.0                  | Not Detected                        | 4.9                   | Not Detected      |
| Carbon Disulfide                 | 2.0                  | Not Detected                        | 6.2                   | Not Detected      |
| Methylene Chloride               | 5.0                  | Not Detected                        | 17                    | Not Detected      |
| Hexane                           | 0.50                 | Not Detected                        | 1.8                   | Not Detected      |
| 1,1-Dichloroethane               | 0.50                 | Not Detected                        | 2.0                   | Not Detected      |
| 2-Butanone (Methyl Ethyl Ketone) | 2.0                  | Not Detected                        | 5.9                   | Not Detected      |
| Chloroform                       | 0.50                 | Not Detected                        | 2.4                   | Not Detected      |
| 1,1,1-Trichloroethane            | 0.50                 | Not Detected                        | 2.7                   | Not Detected      |
| Carbon Tetrachloride             | 0.50                 | Not Detected                        | 3.1                   | Not Detected      |
| Benzene                          | 0.50                 | Not Detected                        | 1.6                   | Not Detected      |
| 1,2-Dichloroethane               | 0.50                 | Not Detected                        | 2.0                   | Not Detected      |
| Trichloroethene                  | 0.50                 | Not Detected                        | 2.7                   | Not Detected      |
| 1,4-Dioxane                      | 2.0                  | Not Detected                        | 7.2                   | Not Detected      |
| Toluene                          | 0.50                 | Not Detected                        | 1.9                   | Not Detected      |
| 1,1,2-Trichloroethane            | 0.50                 | Not Detected                        | 2.7                   | Not Detected      |
| Tetrachloroethene                | 0.50                 | Not Detected                        | 3.4                   | Not Detected      |
| o-Xylene                         | 0.50                 | Not Detected                        | 2.2                   | Not Detected      |
| TNMOC ref. to Heptane (MW=100)   | 10                   | Not Detected                        | 41                    | Not Detected      |

Container Type: NA - Not Applicable

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8            | 99        | 70-130        |
| 1,2-Dichloroethane-d4 | 98        | 70-130        |
| 4-Bromofluorobenzene  | 96        | 70-130        |



Air Toxics

Client Sample ID: CCV

Lab ID#: 1812559-05A

**EPA METHOD TO-15 GC/MS FULL SCAN**

|              |         |                     |                   |
|--------------|---------|---------------------|-------------------|
| File Name:   | p123102 | Date of Collection: | NA                |
| Dil. Factor: | 1.00    | Date of Analysis:   | 12/31/18 10:14 AM |

| Compound                         | %Recovery |
|----------------------------------|-----------|
| Freon 12                         | 112       |
| Vinyl Chloride                   | 119       |
| Freon 11                         | 108       |
| Freon 113                        | 107       |
| 1,1-Dichloroethene               | 110       |
| 2-Propanol                       | 97        |
| Carbon Disulfide                 | 98        |
| Methylene Chloride               | 104       |
| Hexane                           | 113       |
| 1,1-Dichloroethane               | 105       |
| 2-Butanone (Methyl Ethyl Ketone) | 98        |
| Chloroform                       | 104       |
| 1,1,1-Trichloroethane            | 108       |
| Carbon Tetrachloride             | 101       |
| Benzene                          | 92        |
| 1,2-Dichloroethane               | 104       |
| Trichloroethene                  | 100       |
| 1,4-Dioxane                      | 96        |
| Toluene                          | 97        |
| 1,1,2-Trichloroethane            | 100       |
| Tetrachloroethene                | 110       |
| o-Xylene                         | 112       |
| TNMOC ref. to Heptane (MW=100)   | 100       |

**Container Type: NA - Not Applicable**

| Surrogates            | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8            | 98        | 70-130        |
| 1,2-Dichloroethane-d4 | 102       | 70-130        |
| 4-Bromofluorobenzene  | 109       | 70-130        |



Air Toxics

Client Sample ID: LCS

Lab ID#: 1812559-06A

**EPA METHOD TO-15 GC/MS FULL SCAN**

| File Name:                       | p123103    | Date of Collection: | NA                |
|----------------------------------|------------|---------------------|-------------------|
| Dil. Factor:                     | 1.00       | Date of Analysis:   | 12/31/18 11:02 AM |
| Compound                         | %Recovery  | Method              | Limits            |
| Freon 12                         | 107        | 70-130              |                   |
| Vinyl Chloride                   | 118        | 70-130              |                   |
| Freon 11                         | 102        | 70-130              |                   |
| Freon 113                        | 98         | 70-130              |                   |
| 1,1-Dichloroethene               | 100        | 70-130              |                   |
| 2-Propanol                       | 104        | 70-130              |                   |
| Carbon Disulfide                 | 96         | 70-130              |                   |
| Methylene Chloride               | 94         | 70-130              |                   |
| Hexane                           | 106        | 70-130              |                   |
| 1,1-Dichloroethane               | 96         | 70-130              |                   |
| 2-Butanone (Methyl Ethyl Ketone) | 96         | 70-130              |                   |
| Chloroform                       | 99         | 70-130              |                   |
| 1,1,1-Trichloroethane            | 103        | 70-130              |                   |
| Carbon Tetrachloride             | 106        | 70-130              |                   |
| Benzene                          | 92         | 70-130              |                   |
| 1,2-Dichloroethane               | 100        | 70-130              |                   |
| Trichloroethene                  | 100        | 70-130              |                   |
| 1,4-Dioxane                      | 105        | 70-130              |                   |
| Toluene                          | 95         | 70-130              |                   |
| 1,1,2-Trichloroethane            | 99         | 70-130              |                   |
| Tetrachloroethene                | 108        | 70-130              |                   |
| o-Xylene                         | 111        | 70-130              |                   |
| TNMOC ref. to Heptane (MW=100)   | Not Spiked |                     |                   |

**Container Type: NA - Not Applicable**

| Surrogates            | %Recovery | Method | Limits |
|-----------------------|-----------|--------|--------|
| Toluene-d8            | 100       | 70-130 |        |
| 1,2-Dichloroethane-d4 | 101       | 70-130 |        |
| 4-Bromofluorobenzene  | 106       | 70-130 |        |



Air Toxics

Client Sample ID: LCSD

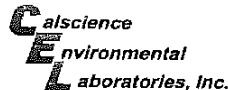
Lab ID#: 1812559-06AA

**EPA METHOD TO-15 GC/MS FULL SCAN**

| File Name:                       | p123104    | Date of Collection: | NA                |
|----------------------------------|------------|---------------------|-------------------|
| Dil. Factor:                     | 1.00       | Date of Analysis:   | 12/31/18 11:27 AM |
| Compound                         | %Recovery  | Method              | Limits            |
| Freon 12                         | 110        | 70-130              |                   |
| Vinyl Chloride                   | 121        | 70-130              |                   |
| Freon 11                         | 107        | 70-130              |                   |
| Freon 113                        | 101        | 70-130              |                   |
| 1,1-Dichloroethene               | 107        | 70-130              |                   |
| 2-Propanol                       | 110        | 70-130              |                   |
| Carbon Disulfide                 | 97         | 70-130              |                   |
| Methylene Chloride               | 98         | 70-130              |                   |
| Hexane                           | 111        | 70-130              |                   |
| 1,1-Dichloroethane               | 99         | 70-130              |                   |
| 2-Butanone (Methyl Ethyl Ketone) | 100        | 70-130              |                   |
| Chloroform                       | 101        | 70-130              |                   |
| 1,1,1-Trichloroethane            | 107        | 70-130              |                   |
| Carbon Tetrachloride             | 111        | 70-130              |                   |
| Benzene                          | 91         | 70-130              |                   |
| 1,2-Dichloroethane               | 101        | 70-130              |                   |
| Trichloroethene                  | 100        | 70-130              |                   |
| 1,4-Dioxane                      | 106        | 70-130              |                   |
| Toluene                          | 97         | 70-130              |                   |
| 1,1,2-Trichloroethane            | 98         | 70-130              |                   |
| Tetrachloroethene                | 107        | 70-130              |                   |
| o-Xylene                         | 112        | 70-130              |                   |
| TNMOC ref. to Heptane (MW=100)   | Not Spiked |                     |                   |

**Container Type: NA - Not Applicable**

| Surrogates            | %Recovery | Method | Limits |
|-----------------------|-----------|--------|--------|
| Toluene-d8            | 98        | 70-130 |        |
| 1,2-Dichloroethane-d4 | 101       | 70-130 |        |
| 4-Bromofluorobenzene  | 106       | 70-130 |        |



7440 LINCOLN WAY  
GARDEN GROVE, CA 92841-1427  
TEL: (714) 895-5494. FAX: (714) 894-7601

### AIR CHAIN OF CUSTODY RECORD

DATE: 12/ /18  
PAGE: 1 OF 1

|  |                                  |  |  |   |              |               |  |                          |  |  |  |
|--|----------------------------------|--|--|---|--------------|---------------|--|--------------------------|--|--|--|
| LABORATORY CLIENT:<br>de maximis   |                                  |  |  | CLIENT PROJECT NAME / NUMBER:<br>Omega - GWTS Monthly GAC |              |               |  | P.O. NO:                 |  |  |  |
| ADDRESS:<br>1322 Scott St., Suite 104  |                                  |  |  | PROJECT ADDRESS:<br>12520 Whittier Blvd.                  |              |               |  | LAB CONTACT OR QUOTE NO: |  |  |  |
| CITY:<br>San Diego   | STATE:<br>CA                     | ZIP:<br>92106  |  | CITY:<br>Whittier   | STATE:<br>CA | ZIP:<br>90602 |  |                          |  |  |  |
| TEL:<br>(562) 756-8149   | EMAIL:<br>jdinello@demaximis.com | PROJECT CONTACT: Trent Henderson thenderson@jacobandhefner.com |  |   |              | LAB USE ONLY  |  |                          |  |  |  |
| TURNAROUND TIME:<br><input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input checked="" type="checkbox"/> 5 DAYS <input type="checkbox"/> 10 DAYS |                                  |  |  | Khalid Arber  |              |               |  | REQUESTED ANALYSES       |  |  |  |
| SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)<br><input checked="" type="checkbox"/> EDD   |                                  |  |  |   |              |               |  |                          |  |  |  |
| SPECIAL INSTRUCTIONS:  |                                  |  |  |   |              |               |  |                          |  |  |  |

01A

02A

03A

| LAB USE ONLY | SAMPLE ID                 | FIELD ID / Point of Collection | Air Type                              | Sampling Equipment Info |                        | Start Sampling Information |          |                   | Stop Sampling Information |          |                   | TO-15 (TAL 2-3) |
|--------------|---------------------------|--------------------------------|---------------------------------------|-------------------------|------------------------|----------------------------|----------|-------------------|---------------------------|----------|-------------------|-----------------|
|              |                           |                                | (I) Indoor (SV) Soil Vap. (A) Ambient | Canister ID#            | Canister Size 6L or 1L | Flow Controller ID#        | Date     | Time (24hr clock) | Canister Pressure (Hg)    | Date     | Time (24hr clock) |                 |
| 1            | OC_VGAC_EFF_SP242_1218 18 | SP-EFF-GAC                     | Vapor                                 | 1L1817                  | 1L                     | 23439                      | 12/18/18 | 1137              | -27                       | 12/18/18 | 1143              | -3              |
| 2            | OC_VGAC_INT_SP245_1218 18 | SP-MID-GAC                     | Vapor                                 | 1L1787                  | 1L                     | 23384                      | 12/18/18 | 1138              | -27                       | 12/18/18 | 1143              | -4              |
| 3            | OC_VGAC_INF_SP241_1218 18 | SP-INF-GAC                     | Vapor                                 | 1L1818                  | 1L                     | 23681                      | 12/18/18 | 1140              | -28                       | 12/18/18 | 1145              | -5              |
| 4            |                           |                                |                                       |                         |                        |                            |          |                   |                           |          |                   |                 |
| 5            |                           |                                |                                       |                         |                        |                            |          |                   |                           |          |                   |                 |
| 6            |                           |                                |                                       |                         |                        |                            |          |                   |                           |          |                   |                 |
| 7            |                           |                                |                                       |                         |                        |                            |          |                   |                           |          |                   |                 |
| 8            |                           |                                |                                       |                         |                        |                            |          |                   |                           |          |                   |                 |
| 9            |                           |                                |                                       |                         |                        |                            |          |                   |                           |          |                   |                 |
| 10           |                           |                                |                                       |                         |                        |                            |          |                   |                           |          |                   |                 |
| 11           |                           |                                |                                       |                         |                        |                            |          |                   |                           |          |                   |                 |
| 12           |                           |                                |                                       |                         |                        |                            |          |                   |                           |          |                   |                 |
| 13           |                           |                                |                                       |                         |                        |                            |          |                   |                           |          |                   |                 |
| 14           |                           |                                |                                       |                         |                        |                            |          |                   |                           |          |                   |                 |
| 15           |                           |                                |                                       |                         |                        |                            |          |                   |                           |          |                   |                 |

Custody Seal Intact?

Y N None Temp NA

100°F X

|                              |                          |                           |
|------------------------------|--------------------------|---------------------------|
| Relinquished by: (Signature) | Received by: (Signature) | Date: 12/26/18 Time: 1005 |
| Relinquished by: (Signature) | Received by: (Signature) | Date: Time:               |
| Relinquished by: (Signature) | Received by: (Signature) | Date: Time:               |

1812559

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-222208-1

TestAmerica Sample Delivery Group: Whittier

Client Project/Site: Omega Chemical - GWTS Monthly

For:

Jacob & Hefner Associates P.C.

15375 Barranca Parkway, J-101

Irvine, California 92618

Attn: Trent Henderson

Authorized for release by:

10/20/2018 6:55:31 AM

Danielle Roberts, Senior Project Manager

(949)261-1022

danielle.roberts@testamericainc.com

### LINKS

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results through

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The  
Expert

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[www.testamericainc.com](http://www.testamericainc.com)

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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## Sample Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-222208-1  
SDG: Whittier

| Lab Sample ID | Client Sample ID     | Matrix | Collected      | Received       |
|---------------|----------------------|--------|----------------|----------------|
| 440-222208-1  | OC_SP220B_EFF_101218 | Water  | 10/12/18 08:59 | 10/13/18 11:55 |
| 440-222208-2  | OC_SP210_INF_101218  | Water  | 10/12/18 09:05 | 10/13/18 11:55 |
| 440-222208-3  | OC_TB_101218         | Water  | 10/12/18 08:45 | 10/13/18 11:55 |

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TestAmerica Irvine

# Case Narrative

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-222208-1  
SDG: Whittier

**Job ID: 440-222208-1**

**Laboratory: TestAmerica Irvine**

## Narrative

### Job Narrative 440-222208-1

## Comments

No additional comments.

## Receipt

The samples were received on 10/13/2018 11:55 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6° C.

## GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Organic Prep

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 3520C\_8270C/1625-SIM-1,4-DXN/NDMA preparation batch 440-505685.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Detection Summary

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-222208-1  
 SDG: Whittier

**Client Sample ID: OC\_SP220B\_EFF\_101218**

**Lab Sample ID: 440-222208-1**

| Analyte     | Result | Qualifier | RL   | MDL   | Unit | Dil Fac | D | Method    | Prep Type |
|-------------|--------|-----------|------|-------|------|---------|---|-----------|-----------|
| Acetone     | 14     |           | 10   | 10    | ug/L | 1       |   | 8260B     | Total/NA  |
| 1,4-Dioxane | 12     |           | 0.50 | 0.099 | ug/L | 1       |   | 8270C SIM | Total/NA  |

**Client Sample ID: OC\_SP210\_INF\_101218**

**Lab Sample ID: 440-222208-2**

| Analyte                               | Result | Qualifier | RL  | MDL  | Unit | Dil Fac | D | Method | Prep Type |
|---------------------------------------|--------|-----------|-----|------|------|---------|---|--------|-----------|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 94     |           | 5.0 | 0.50 | ug/L | 1       |   | 8260B  | Total/NA  |
| 1,1-Dichloroethane                    | 0.44   | J         | 1.0 | 0.25 | ug/L | 1       |   | 8260B  | Total/NA  |
| 1,1-Dichloroethene                    | 44     |           | 1.0 | 0.25 | ug/L | 1       |   | 8260B  | Total/NA  |
| 1,2-Dichloroethane                    | 2.7    |           | 1.0 | 0.25 | ug/L | 1       |   | 8260B  | Total/NA  |
| Bromoform                             | 0.62   | J         | 1.0 | 0.40 | ug/L | 1       |   | 8260B  | Total/NA  |
| Chloroform                            | 15     |           | 1.0 | 0.25 | ug/L | 1       |   | 8260B  | Total/NA  |
| Trichloroethene                       | 33     |           | 1.0 | 0.25 | ug/L | 1       |   | 8260B  | Total/NA  |
| Trichlorofluoromethane                | 21     |           | 1.0 | 0.25 | ug/L | 1       |   | 8260B  | Total/NA  |
| Tetrachloroethylene - DL              | 290    |           | 5.0 | 1.3  | ug/L | 5       |   | 8260B  | Total/NA  |

**Client Sample ID: OC\_TB\_101218**

**Lab Sample ID: 440-222208-3**

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---------|--------|-----------|----|-----|------|---------|---|--------|-----------|
| Acetone | 35     |           | 10 | 10  | ug/L | 1       |   | 8260B  | Total/NA  |

This Detection Summary does not include radiochemical test results.

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-222208-1  
 SDG: Whittier

**Client Sample ID: OC\_SP220B\_EFF\_101218**

**Lab Sample ID: 440-222208-1**

**Matrix: Water**

**Date Collected: 10/12/18 08:59**

**Date Received: 10/13/18 11:55**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte                               | Result    | Qualifier | RL   | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|-----------|-----------|------|------|------|---|----------|----------------|---------|
| 1,1,1,2-Tetrachloroethane             | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 1,1,1-Trichloroethane                 | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 1,1,2,2-Tetrachloroethane             | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND        |           | 5.0  | 0.50 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 1,1,2-Trichloroethane                 | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 1,1-Dichloroethane                    | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 1,1-Dichloroethene                    | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 1,1-Dichloropropene                   | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 1,2,3-Trichlorobenzene                | ND        |           | 1.0  | 0.40 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 1,2,3-Trichloropropane                | ND        |           | 1.0  | 0.40 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 1,2,4-Trichlorobenzene                | ND        |           | 1.0  | 0.40 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 1,2,4-Trimethylbenzene                | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 1,2-Dibromo-3-Chloropropane           | ND        |           | 5.0  | 0.50 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 1,2-Dibromoethane (EDB)               | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 1,2-Dichlorobenzene                   | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 1,2-Dichloroethane                    | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 1,2-Dichloropropane                   | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 1,3,5-Trimethylbenzene                | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 1,3-Dichlorobenzene                   | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 1,3-Dichloropropane                   | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 1,4-Dichlorobenzene                   | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 2,2-Dichloropropane                   | ND        |           | 1.0  | 0.40 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 2-Chlorotoluene                       | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| 4-Chlorotoluene                       | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| <b>Acetone</b>                        | <b>14</b> |           | 10   | 10   | ug/L |   |          | 10/18/18 23:02 | 1       |
| Benzene                               | ND        |           | 0.50 | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| Bromobenzene                          | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| Bromochloromethane                    | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| Bromodichloromethane                  | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| Bromoform                             | ND        |           | 1.0  | 0.40 | ug/L |   |          | 10/18/18 23:02 | 1       |
| Bromomethane                          | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| Carbon tetrachloride                  | ND        |           | 0.50 | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| Chlorobenzene                         | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| Chloroethane                          | ND        |           | 1.0  | 0.40 | ug/L |   |          | 10/18/18 23:02 | 1       |
| Chloroform                            | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| Chloromethane                         | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| cis-1,2-Dichloroethene                | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| cis-1,3-Dichloropropene               | ND        |           | 0.50 | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| Dibromochloromethane                  | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| Dibromomethane                        | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| Dichlorodifluoromethane               | ND        |           | 1.0  | 0.40 | ug/L |   |          | 10/18/18 23:02 | 1       |
| Ethylbenzene                          | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| Hexachlorobutadiene                   | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| Isopropyl alcohol                     | ND        |           | 250  | 180  | ug/L |   |          | 10/18/18 23:02 | 1       |
| Isopropylbenzene                      | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| m,p-Xylene                            | ND        |           | 1.0  | 0.50 | ug/L |   |          | 10/18/18 23:02 | 1       |
| Methylene Chloride                    | ND        |           | 5.0  | 0.88 | ug/L |   |          | 10/18/18 23:02 | 1       |
| Methyl-t-Butyl Ether (MTBE)           | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:02 | 1       |
| Naphthalene                           | ND        |           | 1.0  | 0.40 | ug/L |   |          | 10/18/18 23:02 | 1       |

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-222208-1  
 SDG: Whittier

**Client Sample ID: OC\_SP220B\_EFF\_101218**

**Lab Sample ID: 440-222208-1**

**Matrix: Water**

Date Collected: 10/12/18 08:59

Date Received: 10/13/18 11:55

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                      | Result           | Qualifier        | RL            | MDL  | Unit | D | Prepared        | Analyzed        | Dil Fac        |
|------------------------------|------------------|------------------|---------------|------|------|---|-----------------|-----------------|----------------|
| n-Butylbenzene               | ND               |                  | 1.0           | 0.40 | ug/L |   |                 | 10/18/18 23:02  | 1              |
| N-Propylbenzene              | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:02  | 1              |
| o-Xylene                     | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:02  | 1              |
| p-Isopropyltoluene           | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:02  | 1              |
| sec-Butylbenzene             | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:02  | 1              |
| Styrene                      | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:02  | 1              |
| tert-Butylbenzene            | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:02  | 1              |
| Tetrachloroethene            | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:02  | 1              |
| Toluene                      | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:02  | 1              |
| trans-1,2-Dichloroethene     | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:02  | 1              |
| trans-1,3-Dichloropropene    | ND               |                  | 0.50          | 0.25 | ug/L |   |                 | 10/18/18 23:02  | 1              |
| Trichloroethene              | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:02  | 1              |
| Trichlorofluoromethane       | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:02  | 1              |
| Vinyl chloride               | ND               |                  | 0.50          | 0.25 | ug/L |   |                 | 10/18/18 23:02  | 1              |
| <b>Surrogate</b>             | <b>%Recovery</b> | <b>Qualifier</b> | <b>Limits</b> |      |      |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| 1,2-Dichloroethane-d4 (Surr) | 97               |                  | 70 - 130      |      |      |   |                 | 10/18/18 23:02  | 1              |
| 4-Bromofluorobenzene (Surr)  | 93               |                  | 80 - 120      |      |      |   |                 | 10/18/18 23:02  | 1              |
| Dibromofluoromethane (Surr)  | 99               |                  | 76 - 132      |      |      |   |                 | 10/18/18 23:02  | 1              |
| Toluene-d8 (Surr)            | 103              |                  | 80 - 128      |      |      |   |                 | 10/18/18 23:02  | 1              |

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

| Analyte               | Result           | Qualifier        | RL            | MDL   | Unit | D | Prepared        | Analyzed        | Dil Fac        |
|-----------------------|------------------|------------------|---------------|-------|------|---|-----------------|-----------------|----------------|
| 1,4-Dioxane           | 12               |                  | 0.50          | 0.099 | ug/L |   | 10/17/18 08:41  | 10/19/18 12:32  | 1              |
| <b>Surrogate</b>      | <b>%Recovery</b> | <b>Qualifier</b> | <b>Limits</b> |       |      |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| 1,4-Dioxane-d8 (Surr) | 46               |                  | 27 - 120      |       |      |   | 10/17/18 08:41  | 10/19/18 12:32  | 1              |

**Client Sample ID: OC\_SP210\_INF\_101218**

**Lab Sample ID: 440-222208-2**

**Matrix: Water**

Date Collected: 10/12/18 09:05

Date Received: 10/13/18 11:55

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte                                      | Result        | Qualifier | RL  | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|--|---------------|-----------|-----|------|------|---|----------|----------------|---------|
| 1,1,1,2-Tetrachloroethane                    | ND            |           | 1.0 | 0.25 | ug/L |   |          | 10/18/18 23:55 | 1       |
| 1,1,1-Trichloroethane                        | ND            |           | 1.0 | 0.25 | ug/L |   |          | 10/18/18 23:55 | 1       |
| 1,1,2,2-Tetrachloroethane                    | ND            |           | 1.0 | 0.25 | ug/L |   |          | 10/18/18 23:55 | 1       |
| <b>1,1,2-Trichloro-1,2,2-trifluoroethane</b> | <b>94</b>     |           | 5.0 | 0.50 | ug/L |   |          | 10/18/18 23:55 | 1       |
| 1,1,2-Trichloroethane                        | ND            |           | 1.0 | 0.25 | ug/L |   |          | 10/18/18 23:55 | 1       |
| <b>1,1-Dichloroethane</b>                    | <b>0.44 J</b> |           | 1.0 | 0.25 | ug/L |   |          | 10/18/18 23:55 | 1       |
| <b>1,1-Dichloroethene</b>                    | <b>44</b>     |           | 1.0 | 0.25 | ug/L |   |          | 10/18/18 23:55 | 1       |
| 1,1-Dichloropropene                          | ND            |           | 1.0 | 0.25 | ug/L |   |          | 10/18/18 23:55 | 1       |
| 1,2,3-Trichlorobenzene                       | ND            |           | 1.0 | 0.40 | ug/L |   |          | 10/18/18 23:55 | 1       |
| 1,2,3-Trichloropropane                       | ND            |           | 1.0 | 0.40 | ug/L |   |          | 10/18/18 23:55 | 1       |
| 1,2,4-Trichlorobenzene                       | ND            |           | 1.0 | 0.40 | ug/L |   |          | 10/18/18 23:55 | 1       |
| 1,2,4-Trimethylbenzene                       | ND            |           | 1.0 | 0.25 | ug/L |   |          | 10/18/18 23:55 | 1       |
| 1,2-Dibromo-3-Chloropropane                  | ND            |           | 5.0 | 0.50 | ug/L |   |          | 10/18/18 23:55 | 1       |
| 1,2-Dibromoethane (EDB)                      | ND            |           | 1.0 | 0.25 | ug/L |   |          | 10/18/18 23:55 | 1       |
| 1,2-Dichlorobenzene                          | ND            |           | 1.0 | 0.25 | ug/L |   |          | 10/18/18 23:55 | 1       |
| <b>1,2-Dichloroethane</b>                    | <b>2.7</b>    |           | 1.0 | 0.25 | ug/L |   |          | 10/18/18 23:55 | 1       |

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-222208-1  
 SDG: Whittier

**Client Sample ID: OC\_SP210\_INF\_101218**

**Lab Sample ID: 440-222208-2**

**Matrix: Water**

Date Collected: 10/12/18 09:05

Date Received: 10/13/18 11:55

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                       | Result           | Qualifier        | RL            | MDL  | Unit | D | Prepared        | Analyzed        | Dil Fac        |
|-------------------------------|------------------|------------------|---------------|------|------|---|-----------------|-----------------|----------------|
| 1,2-Dichloropropane           | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| 1,3,5-Trimethylbenzene        | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| 1,3-Dichlorobenzene           | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| 1,3-Dichloropropane           | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| 1,4-Dichlorobenzene           | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| 2,2-Dichloropropane           | ND               |                  | 1.0           | 0.40 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| 2-Chlorotoluene               | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| 4-Chlorotoluene               | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Acetone                       | ND               |                  | 10            | 10   | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Benzene                       | ND               |                  | 0.50          | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Bromobenzene                  | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Bromochloromethane            | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Bromodichloromethane          | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| <b>Bromoform</b>              | <b>0.62</b>      | <b>J</b>         | 1.0           | 0.40 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Bromomethane                  | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Carbon tetrachloride          | ND               |                  | 0.50          | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Chlorobenzene                 | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Chloroethane                  | ND               |                  | 1.0           | 0.40 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| <b>Chloroform</b>             | <b>15</b>        |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Chloromethane                 | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| cis-1,2-Dichloroethene        | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| cis-1,3-Dichloropropene       | ND               |                  | 0.50          | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Dibromochloromethane          | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Dibromomethane                | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Dichlorodifluoromethane       | ND               |                  | 1.0           | 0.40 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Ethylbenzene                  | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Hexachlorobutadiene           | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Isopropyl alcohol             | ND               |                  | 250           | 180  | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Isopropylbenzene              | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| m,p-Xylene                    | ND               |                  | 1.0           | 0.50 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Methylene Chloride            | ND               |                  | 5.0           | 0.88 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Methyl-t-Butyl Ether (MTBE)   | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Naphthalene                   | ND               |                  | 1.0           | 0.40 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| n-Butylbenzene                | ND               |                  | 1.0           | 0.40 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| N-Propylbenzene               | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| o-Xylene                      | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| p-Isopropyltoluene            | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| sec-Butylbenzene              | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Styrene                       | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| tert-Butylbenzene             | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Toluene                       | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| trans-1,2-Dichloroethene      | ND               |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| trans-1,3-Dichloropropene     | ND               |                  | 0.50          | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| <b>Trichloroethene</b>        | <b>33</b>        |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| <b>Trichlorofluoromethane</b> | <b>21</b>        |                  | 1.0           | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| Vinyl chloride                | ND               |                  | 0.50          | 0.25 | ug/L |   |                 | 10/18/18 23:55  | 1              |
| <b>Surrogate</b>              | <b>%Recovery</b> | <b>Qualifier</b> | <b>Limits</b> |      |      |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| 1,2-Dichloroethane-d4 (Surr)  | 100              |                  | 70 - 130      |      |      |   |                 | 10/18/18 23:55  | 1              |
| 4-Bromofluorobenzene (Surr)   | 94               |                  | 80 - 120      |      |      |   |                 | 10/18/18 23:55  | 1              |

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-222208-1  
 SDG: Whittier

**Client Sample ID: OC\_SP210\_INF\_101218**

**Lab Sample ID: 440-222208-2**

**Matrix: Water**

Date Collected: 10/12/18 09:05

Date Received: 10/13/18 11:55

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------|----------------|---------|
| Dibromofluoromethane (Surr) | 99        |           | 76 - 132 |          | 10/18/18 23:55 | 1       |
| Toluene-d8 (Surr)           | 105       |           | 80 - 128 |          | 10/18/18 23:55 | 1       |

**Method: 8260B - Volatile Organic Compounds (GC/MS) - DL**

| Analyte                      | Result    | Qualifier | RL       | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Tetrachloroethene            | 290       |           | 5.0      | 1.3 | ug/L |   |          | 10/18/18 22:35 | 5       |
| Surrogate                    | %Recovery | Qualifier | Limits   |     |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 95        |           | 70 - 130 |     |      |   |          | 10/18/18 22:35 | 5       |
| 4-Bromofluorobenzene (Surr)  | 94        |           | 80 - 120 |     |      |   |          | 10/18/18 22:35 | 5       |
| Dibromofluoromethane (Surr)  | 98        |           | 76 - 132 |     |      |   |          | 10/18/18 22:35 | 5       |
| Toluene-d8 (Surr)            | 105       |           | 80 - 128 |     |      |   |          | 10/18/18 22:35 | 5       |

**Client Sample ID: OC\_TB\_101218**

**Lab Sample ID: 440-222208-3**

**Matrix: Water**

Date Collected: 10/12/18 08:45

Date Received: 10/13/18 11:55

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte                               | Result    | Qualifier | RL   | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|-----------|-----------|------|------|------|---|----------|----------------|---------|
| 1,1,1,2-Tetrachloroethane             | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 1,1,1-Trichloroethane                 | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 1,1,2,2-Tetrachloroethane             | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND        |           | 5.0  | 0.50 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 1,1,2-Trichloroethane                 | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 1,1-Dichloroethane                    | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 1,1-Dichloroethene                    | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 1,1-Dichloropropene                   | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 1,2,3-Trichlorobenzene                | ND        |           | 1.0  | 0.40 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 1,2,3-Trichloropropane                | ND        |           | 1.0  | 0.40 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 1,2,4-Trichlorobenzene                | ND        |           | 1.0  | 0.40 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 1,2,4-Trimethylbenzene                | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 1,2-Dibromo-3-Chloropropane           | ND        |           | 5.0  | 0.50 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 1,2-Dibromoethane (EDB)               | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 1,2-Dichlorobenzene                   | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 1,2-Dichloroethane                    | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 1,2-Dichloropropane                   | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 1,3,5-Trimethylbenzene                | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 1,3-Dichlorobenzene                   | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 1,3-Dichloropropane                   | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 1,4-Dichlorobenzene                   | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 2,2-Dichloropropane                   | ND        |           | 1.0  | 0.40 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 2-Chlorotoluene                       | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| 4-Chlorotoluene                       | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| <b>Acetone</b>                        | <b>35</b> |           | 10   | 10   | ug/L |   |          | 10/18/18 23:28 | 1       |
| Benzene                               | ND        |           | 0.50 | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| Bromobenzene                          | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| Bromochloromethane                    | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| Bromodichloromethane                  | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |
| Bromoform                             | ND        |           | 1.0  | 0.40 | ug/L |   |          | 10/18/18 23:28 | 1       |
| Bromomethane                          | ND        |           | 1.0  | 0.25 | ug/L |   |          | 10/18/18 23:28 | 1       |

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-222208-1  
 SDG: Whittier

**Client Sample ID: OC\_TB\_101218**

**Lab Sample ID: 440-222208-3**

Date Collected: 10/12/18 08:45

Matrix: Water

Date Received: 10/13/18 11:55

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                      | Result    | Qualifier | RL       | MDL  | Unit | D              | Prepared       | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|------|------|----------------|----------------|----------|---------|
| Carbon tetrachloride         | ND        |           | 0.50     | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| Chlorobenzene                | ND        |           | 1.0      | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| Chloroethane                 | ND        |           | 1.0      | 0.40 | ug/L |                | 10/18/18 23:28 |          | 1       |
| Chloroform                   | ND        |           | 1.0      | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| Chloromethane                | ND        |           | 1.0      | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| cis-1,2-Dichloroethene       | ND        |           | 1.0      | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| cis-1,3-Dichloropropene      | ND        |           | 0.50     | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| Dibromochloromethane         | ND        |           | 1.0      | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| Dibromomethane               | ND        |           | 1.0      | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| Dichlorodifluoromethane      | ND        |           | 1.0      | 0.40 | ug/L |                | 10/18/18 23:28 |          | 1       |
| Ethylbenzene                 | ND        |           | 1.0      | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| Hexachlorobutadiene          | ND        |           | 1.0      | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| Isopropyl alcohol            | ND        |           | 250      | 180  | ug/L |                | 10/18/18 23:28 |          | 1       |
| Isopropylbenzene             | ND        |           | 1.0      | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| m,p-Xylene                   | ND        |           | 1.0      | 0.50 | ug/L |                | 10/18/18 23:28 |          | 1       |
| Methylene Chloride           | ND        |           | 5.0      | 0.88 | ug/L |                | 10/18/18 23:28 |          | 1       |
| Methyl-t-Butyl Ether (MTBE)  | ND        |           | 1.0      | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| Naphthalene                  | ND        |           | 1.0      | 0.40 | ug/L |                | 10/18/18 23:28 |          | 1       |
| n-Butylbenzene               | ND        |           | 1.0      | 0.40 | ug/L |                | 10/18/18 23:28 |          | 1       |
| N-Propylbenzene              | ND        |           | 1.0      | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| o-Xylene                     | ND        |           | 1.0      | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| p-Isopropyltoluene           | ND        |           | 1.0      | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| sec-Butylbenzene             | ND        |           | 1.0      | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| Styrene                      | ND        |           | 1.0      | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| tert-Butylbenzene            | ND        |           | 1.0      | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| Tetrachloroethene            | ND        |           | 1.0      | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| Toluene                      | ND        |           | 1.0      | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| trans-1,2-Dichloroethene     | ND        |           | 1.0      | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| trans-1,3-Dichloropropene    | ND        |           | 0.50     | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| Trichloroethene              | ND        |           | 1.0      | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| Trichlorofluoromethane       | ND        |           | 1.0      | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| Vinyl chloride               | ND        |           | 0.50     | 0.25 | ug/L |                | 10/18/18 23:28 |          | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      | Prepared       | Analyzed       | Dil Fac  |         |
| 1,2-Dichloroethane-d4 (Surr) | 99        |           | 70 - 130 |      |      | 10/18/18 23:28 |                | 1        |         |
| 4-Bromofluorobenzene (Surr)  | 94        |           | 80 - 120 |      |      | 10/18/18 23:28 |                | 1        |         |
| Dibromofluoromethane (Surr)  | 99        |           | 76 - 132 |      |      | 10/18/18 23:28 |                | 1        |         |
| Toluene-d8 (Surr)            | 103       |           | 80 - 128 |      |      | 10/18/18 23:28 |                | 1        |         |

TestAmerica Irvine

# Surrogate Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-222208-1  
SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID      | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                 |                  |                 |
|--------------------|------------------------|--|-----------------|------------------|-----------------|
|                    |                        | DCA<br>(70-130)                                | BFB<br>(80-120) | DBFM<br>(76-132) | TOL<br>(80-128) |
| 440-222154-A-1 MS  | Matrix Spike           | 94   | 91              | 98               | 99              |
| 440-222154-A-1 MSD | Matrix Spike Duplicate | 94   | 90              | 101              | 98              |
| 440-222208-1       | OC_SP220B_EFF_101218   | 97   | 93              | 99               | 103             |
| 440-222208-2 - DL  | OC_SP210_INF_101218    | 95   | 94              | 98               | 105             |
| 440-222208-2       | OC_SP210_INF_101218    | 100  | 94              | 99               | 105             |
| 440-222208-3       | OC_TB_101218           | 99   | 94              | 99               | 103             |
| LCS 440-506092/5   | Lab Control Sample     | 98   | 93              | 101              | 99              |
| MB 440-506092/4    | Method Blank           | 99   | 95              | 103              | 104             |

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)  
DBFM = Dibromofluoromethane (Surr)  
TOL = Toluene-d8 (Surr)

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID       | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |  |  |  |
|---------------------|------------------------|--|--|--|--|
|                     |                        | DXE<br>(27-120)                                |  |  |  |
| 440-222208-1        | OC_SP220B_EFF_101218   | 46   |  |  |  |
| LCS 440-505685/3-A  | Lab Control Sample     | 54   |  |  |  |
| LCSD 440-505685/4-A | Lab Control Sample Dup | 45   |  |  |  |
| MB 440-505685/1-A   | Method Blank           | 66   |  |  |  |

### Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

## Method Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-222208-1  
SDG: Whittier

| Method    | Method Description                         | Protocol | Laboratory |
|-----------|--|----------|------------|
| 8260B     | Volatile Organic Compounds (GC/MS)         | SW846    | TAL IRV    |
| 8270C SIM | Semivolatile Organic Compounds (GC/MS SIM) | SW846    | TAL IRV    |
| 3520C     | Liquid-Liquid Extraction (Continuous)      | SW846    | TAL IRV    |
| 5030B     | Purge and Trap                             | SW846    | TAL IRV    |

### Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

# Lab Chronicle

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-222208-1  
 SDG: Whittier

**Client Sample ID: OC\_SP220B\_EFF\_101218**

**Lab Sample ID: 440-222208-1**

**Matrix: Water**

**Date Collected: 10/12/18 08:59**

**Date Received: 10/13/18 11:55**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260B        |     | 1          | 10 mL          | 10 mL        | 506092       | 10/18/18 23:02       | OH1     | TAL IRV |
| Total/NA  | Prep       | 3520C        |     |            | 1010 mL        | 1.0 mL       | 505685       | 10/17/18 08:41       | JAA     | TAL IRV |
| Total/NA  | Analysis   | 8270C SIM    |     | 1          |                |              | 506203       | 10/19/18 12:32       | HN      | TAL IRV |

**Client Sample ID: OC\_SP210\_INF\_101218**

**Lab Sample ID: 440-222208-2**

**Matrix: Water**

**Date Collected: 10/12/18 09:05**

**Date Received: 10/13/18 11:55**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260B        | DL  | 5          | 10 mL          | 10 mL        | 506092       | 10/18/18 22:35       | OH1     | TAL IRV |
| Total/NA  | Analysis   | 8260B        |     | 1          | 10 mL          | 10 mL        | 506092       | 10/18/18 23:55       | OH1     | TAL IRV |

**Client Sample ID: OC\_TB\_101218**

**Lab Sample ID: 440-222208-3**

**Matrix: Water**

**Date Collected: 10/12/18 08:45**

**Date Received: 10/13/18 11:55**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260B        |     | 1          | 10 mL          | 10 mL        | 506092       | 10/18/18 23:28       | OH1     | TAL IRV |

## Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-222208-1  
 SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 440-506092/4**

**Matrix: Water**

**Analysis Batch: 506092**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

| Analyte                               | MB Result | MB Qualifier | RL   | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|-----------|--------------|------|------|------|---|----------|----------------|---------|
| 1,1,1,2-Tetrachloroethane             | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 1,1,1-Trichloroethane                 | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 1,1,2,2-Tetrachloroethane             | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND        |              | 5.0  | 0.50 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 1,1,2-Trichloroethane                 | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 1,1-Dichloroethane                    | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 1,1-Dichloroethene                    | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 1,1-Dichloropropene                   | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 1,2,3-Trichlorobenzene                | ND        |              | 1.0  | 0.40 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 1,2,3-Trichloropropane                | ND        |              | 1.0  | 0.40 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 1,2,4-Trichlorobenzene                | ND        |              | 1.0  | 0.40 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 1,2,4-Trimethylbenzene                | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 1,2-Dibromo-3-Chloropropane           | ND        |              | 5.0  | 0.50 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 1,2-Dibromoethane (EDB)               | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 1,2-Dichlorobenzene                   | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 1,2-Dichloroethane                    | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 1,2-Dichloropropane                   | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 1,3,5-Trimethylbenzene                | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 1,3-Dichlorobenzene                   | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 1,3-Dichloropropane                   | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 1,4-Dichlorobenzene                   | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 2,2-Dichloropropane                   | ND        |              | 1.0  | 0.40 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 2-Chlorotoluene                       | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| 4-Chlorotoluene                       | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| Acetone                               | ND        |              | 10   | 10   | ug/L |   |          | 10/18/18 19:57 | 1       |
| Benzene                               | ND        |              | 0.50 | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| Bromobenzene                          | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| Bromochloromethane                    | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| Bromodichloromethane                  | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| Bromoform                             | ND        |              | 1.0  | 0.40 | ug/L |   |          | 10/18/18 19:57 | 1       |
| Bromomethane                          | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| Carbon tetrachloride                  | ND        |              | 0.50 | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| Chlorobenzene                         | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| Chloroethane                          | ND        |              | 1.0  | 0.40 | ug/L |   |          | 10/18/18 19:57 | 1       |
| Chloroform                            | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| Chloromethane                         | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| cis-1,2-Dichloroethene                | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| cis-1,3-Dichloropropene               | ND        |              | 0.50 | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| Dibromochloromethane                  | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| Dibromomethane                        | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| Dichlorodifluoromethane               | ND        |              | 1.0  | 0.40 | ug/L |   |          | 10/18/18 19:57 | 1       |
| Ethylbenzene                          | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| Hexachlorobutadiene                   | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| Isopropyl alcohol                     | ND        |              | 250  | 180  | ug/L |   |          | 10/18/18 19:57 | 1       |
| Isopropylbenzene                      | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |
| m,p-Xylene                            | ND        |              | 1.0  | 0.50 | ug/L |   |          | 10/18/18 19:57 | 1       |
| Methylene Chloride                    | ND        |              | 5.0  | 0.88 | ug/L |   |          | 10/18/18 19:57 | 1       |
| Methyl-t-Butyl Ether (MTBE)           | ND        |              | 1.0  | 0.25 | ug/L |   |          | 10/18/18 19:57 | 1       |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-222208-1  
 SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 440-506092/4**

**Matrix: Water**

**Analysis Batch: 506092**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

| Analyte                      | MB        | MB        | Result    | Qualifier | RL     | MDL  | Unit | D        | Prepared       | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|-----------|-----------|--------|------|------|----------|----------------|----------------|---------|
|                              | Result    | Qualifier |           |           |        |      |      |          |                |                |         |
| Naphthalene                  | ND        |           |           |           | 1.0    | 0.40 | ug/L |          |                | 10/18/18 19:57 | 1       |
| n-Butylbenzene               | ND        |           |           |           | 1.0    | 0.40 | ug/L |          |                | 10/18/18 19:57 | 1       |
| N-Propylbenzene              | ND        |           |           |           | 1.0    | 0.25 | ug/L |          |                | 10/18/18 19:57 | 1       |
| o-Xylene                     | ND        |           |           |           | 1.0    | 0.25 | ug/L |          |                | 10/18/18 19:57 | 1       |
| p-Isopropyltoluene           | ND        |           |           |           | 1.0    | 0.25 | ug/L |          |                | 10/18/18 19:57 | 1       |
| sec-Butylbenzene             | ND        |           |           |           | 1.0    | 0.25 | ug/L |          |                | 10/18/18 19:57 | 1       |
| Styrene                      | ND        |           |           |           | 1.0    | 0.25 | ug/L |          |                | 10/18/18 19:57 | 1       |
| tert-Butylbenzene            | ND        |           |           |           | 1.0    | 0.25 | ug/L |          |                | 10/18/18 19:57 | 1       |
| Tetrachloroethene            | ND        |           |           |           | 1.0    | 0.25 | ug/L |          |                | 10/18/18 19:57 | 1       |
| Toluene                      | ND        |           |           |           | 1.0    | 0.25 | ug/L |          |                | 10/18/18 19:57 | 1       |
| trans-1,2-Dichloroethene     | ND        |           |           |           | 1.0    | 0.25 | ug/L |          |                | 10/18/18 19:57 | 1       |
| trans-1,3-Dichloropropene    | ND        |           |           |           | 0.50   | 0.25 | ug/L |          |                | 10/18/18 19:57 | 1       |
| Trichloroethene              | ND        |           |           |           | 1.0    | 0.25 | ug/L |          |                | 10/18/18 19:57 | 1       |
| Trichlorofluoromethane       | ND        |           |           |           | 1.0    | 0.25 | ug/L |          |                | 10/18/18 19:57 | 1       |
| Vinyl chloride               | ND        |           |           |           | 0.50   | 0.25 | ug/L |          |                | 10/18/18 19:57 | 1       |
| Surrogate                    | MB        | MB        | %Recovery | Qualifier | Limits |      |      | Prepared | Analyzed       | Dil Fac        |         |
|                              | %Recovery | Qualifier |           |           |        |      |      |          |                |                |         |
| 1,2-Dichloroethane-d4 (Surr) | 99        |           | 70 - 130  |           |        |      |      |          | 10/18/18 19:57 | 1              |         |
| 4-Bromofluorobenzene (Surr)  | 95        |           | 80 - 120  |           |        |      |      |          | 10/18/18 19:57 | 1              |         |
| Dibromofluoromethane (Surr)  | 103       |           | 76 - 132  |           |        |      |      |          | 10/18/18 19:57 | 1              |         |
| Toluene-d8 (Surr)            | 104       |           | 80 - 128  |           |        |      |      |          | 10/18/18 19:57 | 1              |         |

**Lab Sample ID: LCS 440-506092/5**

**Matrix: Water**

**Analysis Batch: 506092**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

| Analyte                     | Spike Added | LC S   | LCS       | Unit | D | %Rec | Limits   | %Rec. |
|-----------------------------|-------------|--------|-----------|------|---|------|----------|-------|
|                             |             | Result | Qualifier |      |   |      |          |       |
| 1,1,1,2-Tetrachloroethane   | 25.0        | 24.0   |           | ug/L |   | 96   | 60 - 141 |       |
| 1,1,1-Trichloroethane       | 25.0        | 23.8   |           | ug/L |   | 95   | 70 - 130 |       |
| 1,1,2,2-Tetrachloroethane   | 25.0        | 22.5   |           | ug/L |   | 90   | 63 - 130 |       |
| 1,1,2-Trichloroethane       | 25.0        | 23.8   |           | ug/L |   | 95   | 70 - 130 |       |
| 1,1-Dichloroethane          | 25.0        | 24.1   |           | ug/L |   | 97   | 64 - 130 |       |
| 1,1-Dichloroethene          | 25.0        | 24.8   |           | ug/L |   | 99   | 70 - 130 |       |
| 1,1-Dichloropropene         | 25.0        | 24.1   |           | ug/L |   | 96   | 70 - 130 |       |
| 1,2,3-Trichlorobenzene      | 25.0        | 25.4   |           | ug/L |   | 102  | 60 - 140 |       |
| 1,2,3-Trichloropropane      | 25.0        | 22.5   |           | ug/L |   | 90   | 63 - 130 |       |
| 1,2,4-Trichlorobenzene      | 25.0        | 24.5   |           | ug/L |   | 98   | 60 - 140 |       |
| 1,2,4-Trimethylbenzene      | 25.0        | 23.8   |           | ug/L |   | 95   | 70 - 135 |       |
| 1,2-Dibromo-3-Chloropropane | 25.0        | 21.9   |           | ug/L |   | 88   | 52 - 140 |       |
| 1,2-Dibromoethane (EDB)     | 25.0        | 23.9   |           | ug/L |   | 96   | 70 - 130 |       |
| 1,2-Dichlorobenzene         | 25.0        | 24.6   |           | ug/L |   | 98   | 70 - 130 |       |
| 1,2-Dichloroethane          | 25.0        | 24.1   |           | ug/L |   | 96   | 57 - 138 |       |
| 1,2-Dichloropropane         | 25.0        | 24.7   |           | ug/L |   | 99   | 67 - 130 |       |
| 1,3,5-Trimethylbenzene      | 25.0        | 23.8   |           | ug/L |   | 95   | 70 - 136 |       |
| 1,3-Dichlorobenzene         | 25.0        | 24.1   |           | ug/L |   | 97   | 70 - 130 |       |
| 1,3-Dichloropropane         | 25.0        | 23.9   |           | ug/L |   | 96   | 70 - 130 |       |
| 1,4-Dichlorobenzene         | 25.0        | 23.9   |           | ug/L |   | 95   | 70 - 130 |       |
| 2,2-Dichloropropane         | 25.0        | 24.1   |           | ug/L |   | 96   | 68 - 141 |       |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-222208-1  
 SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-506092/5**

**Matrix: Water**

**Analysis Batch: 506092**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

| Analyte                     | Spike | LCS    | LCS       | Unit | D | %Rec | %Rec.    | Limits |  |
|-----------------------------|-------|--------|-----------|------|---|------|----------|--------|--|
|                             | Added | Result | Qualifier |      |   |      |          |        |  |
| 2-Chlorotoluene             | 25.0  | 23.5   |           | ug/L |   | 94   | 70 - 130 |        |  |
| 4-Chlorotoluene             | 25.0  | 23.5   |           | ug/L |   | 94   | 70 - 130 |        |  |
| Acetone                     | 25.0  | 23.5   |           | ug/L |   | 94   | 10 - 150 |        |  |
| Benzene                     | 25.0  | 23.6   |           | ug/L |   | 94   | 68 - 130 |        |  |
| Bromobenzene                | 25.0  | 23.2   |           | ug/L |   | 93   | 70 - 130 |        |  |
| Bromochloromethane          | 25.0  | 24.9   |           | ug/L |   | 100  | 70 - 130 |        |  |
| Bromodichloromethane        | 25.0  | 24.2   |           | ug/L |   | 97   | 70 - 132 |        |  |
| Bromoform                   | 25.0  | 25.4   |           | ug/L |   | 102  | 60 - 148 |        |  |
| Bromomethane                | 25.0  | 21.8   |           | ug/L |   | 87   | 64 - 139 |        |  |
| Carbon tetrachloride        | 25.0  | 24.5   |           | ug/L |   | 98   | 60 - 150 |        |  |
| Chlorobenzene               | 25.0  | 24.1   |           | ug/L |   | 96   | 70 - 130 |        |  |
| Chloroethane                | 25.0  | 23.4   |           | ug/L |   | 93   | 64 - 135 |        |  |
| Chloroform                  | 25.0  | 24.2   |           | ug/L |   | 97   | 70 - 130 |        |  |
| Chloromethane               | 25.0  | 20.5   |           | ug/L |   | 82   | 47 - 140 |        |  |
| cis-1,2-Dichloroethene      | 25.0  | 24.4   |           | ug/L |   | 97   | 70 - 133 |        |  |
| cis-1,3-Dichloropropene     | 25.0  | 24.0   |           | ug/L |   | 96   | 70 - 133 |        |  |
| Dibromochloromethane        | 25.0  | 24.3   |           | ug/L |   | 97   | 69 - 145 |        |  |
| Dibromomethane              | 25.0  | 24.6   |           | ug/L |   | 98   | 70 - 130 |        |  |
| Dichlorodifluoromethane     | 25.0  | 19.2   |           | ug/L |   | 77   | 29 - 150 |        |  |
| Ethylbenzene                | 25.0  | 23.7   |           | ug/L |   | 95   | 70 - 130 |        |  |
| Hexachlorobutadiene         | 25.0  | 27.1   |           | ug/L |   | 108  | 10 - 150 |        |  |
| Isopropylbenzene            | 25.0  | 23.9   |           | ug/L |   | 96   | 70 - 136 |        |  |
| m,p-Xylene                  | 25.0  | 23.7   |           | ug/L |   | 95   | 70 - 130 |        |  |
| Methylene Chloride          | 25.0  | 23.0   |           | ug/L |   | 92   | 52 - 130 |        |  |
| Methyl-t-Butyl Ether (MTBE) | 25.0  | 22.6   |           | ug/L |   | 90   | 63 - 131 |        |  |
| Naphthalene                 | 25.0  | 23.2   |           | ug/L |   | 93   | 60 - 140 |        |  |
| n-Butylbenzene              | 25.0  | 23.2   |           | ug/L |   | 93   | 65 - 150 |        |  |
| N-Propylbenzene             | 25.0  | 23.7   |           | ug/L |   | 95   | 67 - 139 |        |  |
| o-Xylene                    | 25.0  | 23.5   |           | ug/L |   | 94   | 70 - 130 |        |  |
| p-Isopropyltoluene          | 25.0  | 24.6   |           | ug/L |   | 98   | 70 - 132 |        |  |
| sec-Butylbenzene            | 25.0  | 23.9   |           | ug/L |   | 96   | 70 - 138 |        |  |
| Styrene                     | 25.0  | 21.2   |           | ug/L |   | 85   | 70 - 134 |        |  |
| tert-Butylbenzene           | 25.0  | 24.0   |           | ug/L |   | 96   | 70 - 130 |        |  |
| Tetrachloroethene           | 25.0  | 25.9   |           | ug/L |   | 104  | 70 - 130 |        |  |
| Toluene                     | 25.0  | 23.7   |           | ug/L |   | 95   | 70 - 130 |        |  |
| trans-1,2-Dichloroethene    | 25.0  | 24.0   |           | ug/L |   | 96   | 70 - 130 |        |  |
| trans-1,3-Dichloropropene   | 25.0  | 23.2   |           | ug/L |   | 93   | 70 - 132 |        |  |
| Trichloroethene             | 25.0  | 25.3   |           | ug/L |   | 101  | 70 - 130 |        |  |
| Trichlorofluoromethane      | 25.0  | 24.9   |           | ug/L |   | 99   | 60 - 150 |        |  |
| Vinyl chloride              | 25.0  | 24.2   |           | ug/L |   | 97   | 59 - 133 |        |  |

| Surrogate                    | LCS       | LCS       | Limits   |
|------------------------------|-----------|-----------|----------|
|                              | %Recovery | Qualifier |          |
| 1,2-Dichloroethane-d4 (Surr) | 98        |           | 70 - 130 |
| 4-Bromofluorobenzene (Surr)  | 93        |           | 80 - 120 |
| Dibromofluoromethane (Surr)  | 101       |           | 76 - 132 |
| Toluene-d8 (Surr)            | 99        |           | 80 - 128 |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-222208-1  
 SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-222154-A-1 MS**

**Matrix: Water**

**Analysis Batch: 506092**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

| Analyte                     | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D   | %Rec     | %Rec. Limits |
|-----------------------------|---------------|------------------|-------------|-----------|--------------|------|-----|----------|--------------|
| 1,1,1,2-Tetrachloroethane   | ND            |                  | 25.0        | 23.9      |              | ug/L | 96  | 60 - 149 |              |
| 1,1,1-Trichloroethane       | ND            |                  | 25.0        | 23.9      |              | ug/L | 96  | 70 - 130 |              |
| 1,1,2,2-Tetrachloroethane   | ND            |                  | 25.0        | 23.5      |              | ug/L | 94  | 63 - 130 |              |
| 1,1,2-Trichloroethane       | ND            |                  | 25.0        | 23.8      |              | ug/L | 95  | 70 - 130 |              |
| 1,1-Dichloroethane          | ND            |                  | 25.0        | 24.2      |              | ug/L | 97  | 65 - 130 |              |
| 1,1-Dichloroethene          | 0.73          | J                | 25.0        | 25.0      |              | ug/L | 97  | 70 - 130 |              |
| 1,1-Dichloropropene         | ND            |                  | 25.0        | 23.7      |              | ug/L | 95  | 64 - 130 |              |
| 1,2,3-Trichlorobenzene      | ND            |                  | 25.0        | 26.0      |              | ug/L | 104 | 60 - 140 |              |
| 1,2,3-Trichloropropane      | ND            |                  | 25.0        | 23.2      |              | ug/L | 93  | 60 - 130 |              |
| 1,2,4-Trichlorobenzene      | ND            |                  | 25.0        | 25.1      |              | ug/L | 100 | 60 - 140 |              |
| 1,2,4-Trimethylbenzene      | ND            |                  | 25.0        | 23.9      |              | ug/L | 96  | 70 - 130 |              |
| 1,2-Dibromo-3-Chloropropane | ND            |                  | 25.0        | 22.2      |              | ug/L | 89  | 48 - 140 |              |
| 1,2-Dibromoethane (EDB)     | ND            |                  | 25.0        | 24.3      |              | ug/L | 97  | 70 - 131 |              |
| 1,2-Dichlorobenzene         | ND            |                  | 25.0        | 24.1      |              | ug/L | 96  | 70 - 130 |              |
| 1,2-Dichloroethane          | ND            |                  | 25.0        | 23.6      |              | ug/L | 94  | 56 - 146 |              |
| 1,2-Dichloropropane         | ND            |                  | 25.0        | 24.4      |              | ug/L | 98  | 69 - 130 |              |
| 1,3,5-Trimethylbenzene      | ND            |                  | 25.0        | 23.4      |              | ug/L | 94  | 70 - 130 |              |
| 1,3-Dichlorobenzene         | ND            |                  | 25.0        | 24.5      |              | ug/L | 98  | 70 - 130 |              |
| 1,3-Dichloropropane         | ND            |                  | 25.0        | 23.9      |              | ug/L | 96  | 70 - 130 |              |
| 1,4-Dichlorobenzene         | ND            |                  | 25.0        | 23.9      |              | ug/L | 96  | 70 - 130 |              |
| 2,2-Dichloropropane         | ND            |                  | 25.0        | 24.4      |              | ug/L | 97  | 69 - 138 |              |
| 2-Chlorotoluene             | ND            |                  | 25.0        | 22.9      |              | ug/L | 92  | 70 - 130 |              |
| 4-Chlorotoluene             | ND            |                  | 25.0        | 23.1      |              | ug/L | 93  | 70 - 130 |              |
| Acetone                     | ND            | F1               | 25.0        | 37.7      | F1           | ug/L | 151 | 10 - 150 |              |
| Benzene                     | ND            |                  | 25.0        | 23.5      |              | ug/L | 94  | 66 - 130 |              |
| Bromobenzene                | ND            |                  | 25.0        | 22.6      |              | ug/L | 90  | 70 - 130 |              |
| Bromochloromethane          | ND            |                  | 25.0        | 24.6      |              | ug/L | 98  | 70 - 130 |              |
| Bromodichloromethane        | ND            |                  | 25.0        | 24.1      |              | ug/L | 96  | 70 - 138 |              |
| Bromoform                   | ND            |                  | 25.0        | 25.5      |              | ug/L | 102 | 59 - 150 |              |
| Bromomethane                | ND            |                  | 25.0        | 22.2      |              | ug/L | 89  | 62 - 131 |              |
| Carbon tetrachloride        | ND            |                  | 25.0        | 24.4      |              | ug/L | 97  | 60 - 150 |              |
| Chlorobenzene               | ND            |                  | 25.0        | 24.2      |              | ug/L | 97  | 70 - 130 |              |
| Chloroethane                | ND            |                  | 25.0        | 23.7      |              | ug/L | 95  | 68 - 130 |              |
| Chloroform                  | 0.47          | J                | 25.0        | 24.4      |              | ug/L | 96  | 70 - 130 |              |
| Chloromethane               | ND            |                  | 25.0        | 20.5      |              | ug/L | 82  | 39 - 144 |              |
| cis-1,2-Dichloroethene      | ND            |                  | 25.0        | 23.8      |              | ug/L | 95  | 70 - 130 |              |
| cis-1,3-Dichloropropene     | ND            |                  | 25.0        | 24.4      |              | ug/L | 98  | 70 - 133 |              |
| Dibromochloromethane        | ND            |                  | 25.0        | 24.0      |              | ug/L | 96  | 70 - 148 |              |
| Dibromomethane              | ND            |                  | 25.0        | 24.3      |              | ug/L | 97  | 70 - 130 |              |
| Dichlorodifluoromethane     | ND            |                  | 25.0        | 22.0      |              | ug/L | 88  | 25 - 142 |              |
| Ethylbenzene                | ND            |                  | 25.0        | 23.8      |              | ug/L | 95  | 70 - 130 |              |
| Hexachlorobutadiene         | ND            |                  | 25.0        | 27.3      |              | ug/L | 109 | 10 - 150 |              |
| Isopropyl alcohol           | ND            |                  | 250         | 267       |              | ug/L | 107 | 46 - 142 |              |
| Isopropylbenzene            | ND            |                  | 25.0        | 24.4      |              | ug/L | 97  | 70 - 132 |              |
| m,p-Xylene                  | ND            |                  | 25.0        | 23.9      |              | ug/L | 96  | 70 - 133 |              |
| Methylene Chloride          | ND            |                  | 25.0        | 22.6      |              | ug/L | 90  | 52 - 130 |              |
| Methyl-t-Butyl Ether (MTBE) | ND            |                  | 25.0        | 22.4      |              | ug/L | 90  | 70 - 130 |              |
| Naphthalene                 | ND            |                  | 25.0        | 23.5      |              | ug/L | 94  | 60 - 140 |              |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-222208-1  
 SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-222154-A-1 MS**

**Matrix: Water**

**Analysis Batch: 506092**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

| Analyte                      | Sample    | Sample    | Spike | MS     | MS        | Unit     | D | %Rec | %Rec.    |
|------------------------------|-----------|-----------|-------|--------|-----------|----------|---|------|----------|
|                              | Result    | Qualifier | Added | Result | Qualifier |          |   |      |          |
| n-Butylbenzene               | ND        |           | 25.0  | 23.5   |           | ug/L     |   | 94   | 61 - 149 |
| N-Propylbenzene              | ND        |           | 25.0  | 23.6   |           | ug/L     |   | 95   | 66 - 135 |
| o-Xylene                     | ND        |           | 25.0  | 23.8   |           | ug/L     |   | 95   | 70 - 133 |
| p-Isopropyltoluene           | ND        |           | 25.0  | 24.3   |           | ug/L     |   | 97   | 70 - 130 |
| sec-Butylbenzene             | ND        |           | 25.0  | 24.0   |           | ug/L     |   | 96   | 67 - 134 |
| Styrene                      | ND        |           | 25.0  | 22.1   |           | ug/L     |   | 88   | 29 - 150 |
| tert-Butylbenzene            | ND        |           | 25.0  | 23.4   |           | ug/L     |   | 93   | 70 - 130 |
| Tetrachloroethene            | ND        |           | 25.0  | 27.3   |           | ug/L     |   | 109  | 70 - 137 |
| Toluene                      | ND        |           | 25.0  | 24.1   |           | ug/L     |   | 96   | 70 - 130 |
| trans-1,2-Dichloroethene     | ND        |           | 25.0  | 24.1   |           | ug/L     |   | 96   | 70 - 130 |
| trans-1,3-Dichloropropene    | ND        |           | 25.0  | 23.5   |           | ug/L     |   | 94   | 70 - 138 |
| Trichloroethene              | 26        |           | 25.0  | 51.0   |           | ug/L     |   | 98   | 70 - 130 |
| Trichlorofluoromethane       | ND        |           | 25.0  | 24.9   |           | ug/L     |   | 99   | 60 - 150 |
| Vinyl chloride               | ND        |           | 25.0  | 23.5   |           | ug/L     |   | 94   | 50 - 137 |
| <b>Surrogate</b>             |           |           |       |        |           |          |   |      |          |
|                              | MS        | MS        |       |        |           |          |   |      |          |
|                              | %Recovery | Qualifier |       |        |           | Limits   |   |      |          |
| 1,2-Dichloroethane-d4 (Surr) | 94        |           |       |        |           | 70 - 130 |   |      |          |
| 4-Bromofluorobenzene (Surr)  | 91        |           |       |        |           | 80 - 120 |   |      |          |
| Dibromofluoromethane (Surr)  | 98        |           |       |        |           | 76 - 132 |   |      |          |
| Toluene-d8 (Surr)            | 99        |           |       |        |           | 80 - 128 |   |      |          |

**Lab Sample ID: 440-222154-A-1 MSD**

**Matrix: Water**

**Analysis Batch: 506092**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

| Analyte                     | Sample | Sample    | Spike | MSD    | MSD       | Unit | D | %Rec | %Rec.    |
|-----------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|
|                             | Result | Qualifier | Added | Result | Qualifier |      |   |      |          |
| 1,1,1,2-Tetrachloroethane   | ND     |           | 25.0  | 24.2   |           | ug/L |   | 97   | 60 - 149 |
| 1,1,1-Trichloroethane       | ND     |           | 25.0  | 24.1   |           | ug/L |   | 96   | 70 - 130 |
| 1,1,2,2-Tetrachloroethane   | ND     |           | 25.0  | 24.9   |           | ug/L |   | 99   | 63 - 130 |
| 1,1,2-Trichloroethane       | ND     |           | 25.0  | 23.9   |           | ug/L |   | 96   | 70 - 130 |
| 1,1-Dichloroethane          | ND     |           | 25.0  | 24.4   |           | ug/L |   | 98   | 65 - 130 |
| 1,1-Dichloroethene          | 0.73 J |           | 25.0  | 26.0   |           | ug/L |   | 101  | 70 - 130 |
| 1,1-Dichloropropene         | ND     |           | 25.0  | 24.3   |           | ug/L |   | 97   | 64 - 130 |
| 1,2,3-Trichlorobenzene      | ND     |           | 25.0  | 27.3   |           | ug/L |   | 109  | 60 - 140 |
| 1,2,3-Trichloropropane      | ND     |           | 25.0  | 24.5   |           | ug/L |   | 98   | 60 - 130 |
| 1,2,4-Trichlorobenzene      | ND     |           | 25.0  | 26.3   |           | ug/L |   | 105  | 60 - 140 |
| 1,2,4-Trimethylbenzene      | ND     |           | 25.0  | 24.3   |           | ug/L |   | 97   | 70 - 130 |
| 1,2-Dibromo-3-Chloropropane | ND     |           | 25.0  | 23.9   |           | ug/L |   | 96   | 48 - 140 |
| 1,2-Dibromoethane (EDB)     | ND     |           | 25.0  | 24.4   |           | ug/L |   | 98   | 70 - 131 |
| 1,2-Dichlorobenzene         | ND     |           | 25.0  | 25.2   |           | ug/L |   | 101  | 70 - 130 |
| 1,2-Dichloroethane          | ND     |           | 25.0  | 24.1   |           | ug/L |   | 97   | 56 - 146 |
| 1,2-Dichloropropane         | ND     |           | 25.0  | 24.7   |           | ug/L |   | 99   | 69 - 130 |
| 1,3,5-Trimethylbenzene      | ND     |           | 25.0  | 23.9   |           | ug/L |   | 96   | 70 - 130 |
| 1,3-Dichlorobenzene         | ND     |           | 25.0  | 25.0   |           | ug/L |   | 100  | 70 - 130 |
| 1,3-Dichloropropane         | ND     |           | 25.0  | 24.0   |           | ug/L |   | 96   | 70 - 130 |
| 1,4-Dichlorobenzene         | ND     |           | 25.0  | 24.8   |           | ug/L |   | 99   | 70 - 130 |
| 2,2-Dichloropropane         | ND     |           | 25.0  | 24.4   |           | ug/L |   | 97   | 69 - 138 |
| 2-Chlorotoluene             | ND     |           | 25.0  | 23.4   |           | ug/L |   | 94   | 70 - 130 |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-222208-1  
 SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-222154-A-1 MSD**

**Matrix: Water**

**Analysis Batch: 506092**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

| Analyte                      | Sample | Sample           | Spike            | MSD           | MSD       | Unit | D   | %Rec     | Limits | RPD | RPD |
|------------------------------|--------|------------------|------------------|---------------|-----------|------|-----|----------|--------|-----|-----|
|                              | Result | Qualifier        | Added            | Result        | Qualifier |      |     |          |        |     |     |
| 4-Chlorotoluene              | ND     |                  | 25.0             | 23.9          |           | ug/L | 96  | 70 - 130 | 3      | 20  | 6   |
| Acetone                      | ND     | F1               | 25.0             | 40.9          | F1        | ug/L | 164 | 10 - 150 | 8      | 35  | 7   |
| Benzene                      | ND     |                  | 25.0             | 23.9          |           | ug/L | 96  | 66 - 130 | 2      | 20  | 8   |
| Bromobenzene                 | ND     |                  | 25.0             | 23.5          |           | ug/L | 94  | 70 - 130 | 4      | 20  | 9   |
| Bromochloromethane           | ND     |                  | 25.0             | 25.6          |           | ug/L | 102 | 70 - 130 | 4      | 25  | 10  |
| Bromodichloromethane         | ND     |                  | 25.0             | 24.1          |           | ug/L | 96  | 70 - 138 | 0      | 20  | 11  |
| Bromoform                    | ND     |                  | 25.0             | 26.7          |           | ug/L | 107 | 59 - 150 | 5      | 25  | 12  |
| Bromomethane                 | ND     |                  | 25.0             | 23.0          |           | ug/L | 92  | 62 - 131 | 3      | 25  | 13  |
| Carbon tetrachloride         | ND     |                  | 25.0             | 25.2          |           | ug/L | 101 | 60 - 150 | 3      | 25  | 14  |
| Chlorobenzene                | ND     |                  | 25.0             | 24.3          |           | ug/L | 97  | 70 - 130 | 0      | 20  | 15  |
| Chloroethane                 | ND     |                  | 25.0             | 24.3          |           | ug/L | 97  | 68 - 130 | 3      | 25  |     |
| Chloroform                   | 0.47   | J                | 25.0             | 24.2          |           | ug/L | 95  | 70 - 130 | 1      | 20  |     |
| Chloromethane                | ND     |                  | 25.0             | 19.8          |           | ug/L | 79  | 39 - 144 | 4      | 25  |     |
| cis-1,2-Dichloroethene       | ND     |                  | 25.0             | 24.0          |           | ug/L | 96  | 70 - 130 | 1      | 20  |     |
| cis-1,3-Dichloropropene      | ND     |                  | 25.0             | 24.7          |           | ug/L | 99  | 70 - 133 | 1      | 20  |     |
| Dibromochloromethane         | ND     |                  | 25.0             | 24.5          |           | ug/L | 98  | 70 - 148 | 2      | 25  |     |
| Dibromomethane               | ND     |                  | 25.0             | 24.4          |           | ug/L | 98  | 70 - 130 | 0      | 25  |     |
| Dichlorodifluoromethane      | ND     |                  | 25.0             | 22.2          |           | ug/L | 89  | 25 - 142 | 1      | 30  |     |
| Ethylbenzene                 | ND     |                  | 25.0             | 24.0          |           | ug/L | 96  | 70 - 130 | 1      | 20  |     |
| Hexachlorobutadiene          | ND     |                  | 25.0             | 27.3          |           | ug/L | 109 | 10 - 150 | 0      | 20  |     |
| Isopropyl alcohol            | ND     |                  | 250              | 266           |           | ug/L | 106 | 46 - 142 | 1      | 40  |     |
| Isopropylbenzene             | ND     |                  | 25.0             | 24.6          |           | ug/L | 98  | 70 - 132 | 1      | 20  |     |
| m,p-Xylene                   | ND     |                  | 25.0             | 24.3          |           | ug/L | 97  | 70 - 133 | 2      | 25  |     |
| Methylene Chloride           | ND     |                  | 25.0             | 23.2          |           | ug/L | 93  | 52 - 130 | 3      | 20  |     |
| Methyl-t-Butyl Ether (MTBE)  | ND     |                  | 25.0             | 23.1          |           | ug/L | 92  | 70 - 130 | 3      | 25  |     |
| Naphthalene                  | ND     |                  | 25.0             | 25.2          |           | ug/L | 101 | 60 - 140 | 7      | 30  |     |
| n-Butylbenzene               | ND     |                  | 25.0             | 24.4          |           | ug/L | 98  | 61 - 149 | 4      | 20  |     |
| N-Propylbenzene              | ND     |                  | 25.0             | 24.3          |           | ug/L | 97  | 66 - 135 | 3      | 20  |     |
| o-Xylene                     | ND     |                  | 25.0             | 24.1          |           | ug/L | 96  | 70 - 133 | 1      | 20  |     |
| p-Isopropyltoluene           | ND     |                  | 25.0             | 25.1          |           | ug/L | 100 | 70 - 130 | 3      | 20  |     |
| sec-Butylbenzene             | ND     |                  | 25.0             | 24.9          |           | ug/L | 100 | 67 - 134 | 4      | 20  |     |
| Styrene                      | ND     |                  | 25.0             | 22.3          |           | ug/L | 89  | 29 - 150 | 1      | 35  |     |
| tert-Butylbenzene            | ND     |                  | 25.0             | 24.4          |           | ug/L | 98  | 70 - 130 | 4      | 20  |     |
| Tetrachloroethene            | ND     |                  | 25.0             | 28.1          |           | ug/L | 113 | 70 - 137 | 3      | 20  |     |
| Toluene                      | ND     |                  | 25.0             | 23.8          |           | ug/L | 95  | 70 - 130 | 1      | 20  |     |
| trans-1,2-Dichloroethene     | ND     |                  | 25.0             | 24.6          |           | ug/L | 98  | 70 - 130 | 2      | 20  |     |
| trans-1,3-Dichloropropene    | ND     |                  | 25.0             | 23.8          |           | ug/L | 95  | 70 - 138 | 1      | 25  |     |
| Trichloroethene              | 26     |                  | 25.0             | 50.8          |           | ug/L | 98  | 70 - 130 | 0      | 20  |     |
| Trichlorofluoromethane       | ND     |                  | 25.0             | 25.4          |           | ug/L | 101 | 60 - 150 | 2      | 25  |     |
| Vinyl chloride               | ND     |                  | 25.0             | 23.5          |           | ug/L | 94  | 50 - 137 | 0      | 30  |     |
| <b>Surrogate</b>             |        | <b>MSD</b>       | <b>MSD</b>       |               |           |      |     |          |        |     |     |
| <b>Surrogate</b>             |        | <b>%Recovery</b> | <b>Qualifier</b> | <b>Limits</b> |           |      |     |          |        |     |     |
| 1,2-Dichloroethane-d4 (Surr) |        | 94               |                  | 70 - 130      |           |      |     |          |        |     |     |
| 4-Bromofluorobenzene (Surr)  |        | 90               |                  | 80 - 120      |           |      |     |          |        |     |     |
| Dibromofluoromethane (Surr)  |        | 101              |                  | 76 - 132      |           |      |     |          |        |     |     |
| Toluene-d8 (Surr)            |        | 98               |                  | 80 - 128      |           |      |     |          |        |     |     |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-222208-1  
 SDG: Whittier

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID:** MB 440-505685/1-A

**Matrix:** Water

**Analysis Batch:** 506203

**Client Sample ID:** Method Blank

**Prep Type:** Total/NA

**Prep Batch:** 505685

| Analyte               | MB        | MB        | RL            | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------|-----------|-----------|---------------|------|------|---|----------------|----------------|---------|
|                       | Result    | Qualifier |               |      |      |   |                |                |         |
| 1,4-Dioxane           | ND        |           | 0.50          | 0.10 | ug/L |   | 10/17/18 08:41 | 10/19/18 08:44 | 1       |
| <b>Surrogate</b>      | MB        | MB        | <i>Limits</i> |      |      | D | Prepared       | Analyzed       | Dil Fac |
|                       | %Recovery | Qualifier |               |      |      |   |                |                |         |
| 1,4-Dioxane-d8 (Surr) | 66        |           | 27 - 120      |      |      |   | 10/17/18 08:41 | 10/19/18 08:44 | 1       |

**Lab Sample ID:** LCS 440-505685/3-A

**Matrix:** Water

**Analysis Batch:** 506203

**Client Sample ID:** Lab Control Sample

**Prep Type:** Total/NA

**Prep Batch:** 505685

%Rec.

| Analyte               | Spike     | LCS       | LCS           | Unit | D | %Rec  | Limits   | RPD |
|-----------------------|-----------|-----------|---------------|------|---|-------|----------|-----|
|                       | Added     | Result    | Qualifier     |      |   |       |          |     |
| 1,4-Dioxane           | 2.02      | 1.20      |               | ug/L |   | 59    | 36 - 120 |     |
| <b>Surrogate</b>      | LCS       | LCS       | <i>Limits</i> |      | D | %Rec. | Limits   | RPD |
|                       | %Recovery | Qualifier |               |      |   |       |          |     |
| 1,4-Dioxane-d8 (Surr) | 54        |           | 27 - 120      |      |   |       |          |     |

**Lab Sample ID:** LCSD 440-505685/4-A

**Matrix:** Water

**Analysis Batch:** 506203

**Client Sample ID:** Lab Control Sample Dup

**Prep Type:** Total/NA

**Prep Batch:** 505685

%Rec.

| Analyte               | Spike     | LCSD      | LCSD          | Unit | D | %Rec  | Limits   | RPD |
|-----------------------|-----------|-----------|---------------|------|---|-------|----------|-----|
|                       | Added     | Result    | Qualifier     |      |   |       |          |     |
| 1,4-Dioxane           | 1.96      | 0.973     |               | ug/L |   | 50    | 36 - 120 | 21  |
| <b>Surrogate</b>      | LCSD      | LCSD      | <i>Limits</i> |      | D | %Rec. | Limits   | RPD |
|                       | %Recovery | Qualifier |               |      |   |       |          |     |
| 1,4-Dioxane-d8 (Surr) | 45        |           | 27 - 120      |      |   |       |          |     |

# QC Association Summary

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-222208-1  
 SDG: Whittier

## GC/MS VOA

### Analysis Batch: 506092

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 440-222208-1       | OC_SP220B_EFF_101218   | Total/NA  | Water  | 8260B  |            |
| 440-222208-2 - DL  | OC_SP210_INF_101218    | Total/NA  | Water  | 8260B  |            |
| 440-222208-2       | OC_SP210_INF_101218    | Total/NA  | Water  | 8260B  |            |
| 440-222208-3       | OC_TB_101218           | Total/NA  | Water  | 8260B  |            |
| MB 440-506092/4    | Method Blank           | Total/NA  | Water  | 8260B  |            |
| LCS 440-506092/5   | Lab Control Sample     | Total/NA  | Water  | 8260B  |            |
| 440-222154-A-1 MS  | Matrix Spike           | Total/NA  | Water  | 8260B  |            |
| 440-222154-A-1 MSD | Matrix Spike Duplicate | Total/NA  | Water  | 8260B  |            |

## GC/MS Semi VOA

### Prep Batch: 505685

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 440-222208-1        | OC_SP220B_EFF_101218   | Total/NA  | Water  | 3520C  |            |
| MB 440-505685/1-A   | Method Blank           | Total/NA  | Water  | 3520C  |            |
| LCS 440-505685/3-A  | Lab Control Sample     | Total/NA  | Water  | 3520C  |            |
| LCSD 440-505685/4-A | Lab Control Sample Dup | Total/NA  | Water  | 3520C  |            |

### Analysis Batch: 506203

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method    | Prep Batch |
|---------------------|------------------------|-----------|--------|-----------|------------|
| 440-222208-1        | OC_SP220B_EFF_101218   | Total/NA  | Water  | 8270C SIM | 505685     |
| MB 440-505685/1-A   | Method Blank           | Total/NA  | Water  | 8270C SIM | 505685     |
| LCS 440-505685/3-A  | Lab Control Sample     | Total/NA  | Water  | 8270C SIM | 505685     |
| LCSD 440-505685/4-A | Lab Control Sample Dup | Total/NA  | Water  | 8270C SIM | 505685     |

# Definitions/Glossary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-222208-1  
SDG: Whittier

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description  |
|-----------|--|
| F1        | MS and/or MSD Recovery is outside acceptance limits.   |
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

## Glossary

### Abbreviation

**These commonly used abbreviations may or may not be present in this report.**

|                |   |
|----------------|---|
| □              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-222208-1  
SDG: Whittier

## Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| California | State Program | 9          | CA ELAP 2706          | 06-30-19        |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte                               |
|-----------------|-------------|--------|---------------------------------------|
| 8260B           |             | Water  | 1,1,2-Trichloro-1,2,2-trifluoroethane |
| 8260B           |             | Water  | m,p-Xylene                            |
| 8270C SIM       | 3520C       | Water  | 1,4-Dioxane                           |

TestAmerica Irvine

17461 Derian Ave  
Suite 100  
Irvine, CA 92614  
phone 949.261.1022 fax

## **Chain of Custody Record**

**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING  
**TestAmerica Laboratories, Inc.**

**Regulatory Program:**  DW  NPDES  RCRA  Other

## Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-222208-1

SDG Number: Whittier

**Login Number:** 222208

**List Source:** TestAmerica Irvine

**List Number:** 1

**Creator:** Avila, Stephanie 1

| Question   | Answer | Comment     |    |
|--|--------|-------------|----|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | True   |             | 1  |
| The cooler's custody seal, if present, is intact.                                | N/A    | Not present | 2  |
| Sample custody seals, if present, are intact.                                    | N/A    | Not Present | 3  |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |             | 4  |
| Samples were received on ice.  | True   |             | 5  |
| Cooler Temperature is acceptable.  | True   |             | 6  |
| Cooler Temperature is recorded.  | True   |             | 7  |
| COC is present.  | True   |             | 8  |
| COC is filled out in ink and legible.  | True   |             | 9  |
| COC is filled out with all pertinent information.                                | True   |             | 10 |
| Is the Field Sampler's name present on COC?                                      | True   |             | 11 |
| There are no discrepancies between the containers received and the COC.          | True   |             | 12 |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |             | 13 |
| Sample containers have legible labels.   | True   |             | 14 |
| Containers are not broken or leaking.  | True   |             | 15 |
| Sample collection date/times are provided.                                       | True   |             |    |
| Appropriate sample containers are used.  | True   |             |    |
| Sample bottles are completely filled.  | True   |             |    |
| Sample Preservation Verified.  | N/A    |             |    |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |             |    |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | True   |             |    |
| Multiphasic samples are not present.   | True   |             |    |
| Samples do not require splitting or compositing.                                 | True   |             |    |
| Residual Chlorine Checked.   | N/A    |             |    |

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

[TestAmerica Job ID: 440-224055-1](#)

TestAmerica SDG: Omega Chemical- Whittier

Client Project/Site: Omega Chemical - GWTS Monthly

For:

Jacob & Hefner Associates P.C.

15375 Barranca Parkway, J-101

Irvine, California 92618

Attn: Trent Henderson

Authorized for release by:

11/19/2018 2:48:08 PM

Danielle Roberts, Senior Project Manager

(949)261-1022

[danielle.roberts@testamericainc.com](mailto:danielle.roberts@testamericainc.com)

### LINKS

Review your project  
results through

[TotalAccess](#)

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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## Sample Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
SDG: Omega Chemical- Whittier

| Lab Sample ID | Client Sample ID     | Matrix | Collected      | Received       |
|---------------|----------------------|--------|----------------|----------------|
| 440-224055-1  | OC_SP220B_EFF_110918 | Water  | 11/09/18 07:55 | 11/09/18 17:23 |
| 440-224055-2  | OC_SP210_INF_110918  | Water  | 11/09/18 08:01 | 11/09/18 17:23 |
| 440-224055-3  | OC_TB_110918         | Water  | 11/09/18 07:50 | 11/09/18 17:23 |

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TestAmerica Irvine

# Case Narrative

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
SDG: Omega Chemical- Whittier

## Job ID: 440-224055-1

### Laboratory: TestAmerica Irvine

#### Narrative

#### Job Narrative 440-224055-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/9/2018 5:23 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.1° C.

#### Receipt Exceptions

The Field Sampler was not listed on the Chain of Custody.

#### GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 3520C\_8270C/1625-SIM-1,4-DXN/NDMApreparation batch 440-511375.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Detection Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
SDG: Omega Chemical- Whittier

**Client Sample ID: OC\_SP220B\_EFF\_110918****Lab Sample ID: 440-224055-1**

| Analyte     | Result | Qualifier | RL   | Unit | Dil Fac | D | Method    | Prep Type |
|-------------|--------|-----------|------|------|---------|---|-----------|-----------|
| Acetone     | 12     |           | 10   | ug/L | 1       |   | 8260B     | Total/NA  |
| 1,4-Dioxane | 15     |           | 0.49 | ug/L | 1       |   | 8270C SIM | Total/NA  |

**Client Sample ID: OC\_SP210\_INF\_110918****Lab Sample ID: 440-224055-2**

| Analyte                               | Result | Qualifier | RL  | Unit | Dil Fac | D | Method | Prep Type |
|---------------------------------------|--------|-----------|-----|------|---------|---|--------|-----------|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 81     |           | 5.0 | ug/L | 1       |   | 8260B  | Total/NA  |
| 1,1-Dichloroethene                    | 38     |           | 1.0 | ug/L | 1       |   | 8260B  | Total/NA  |
| 1,2-Dichloroethane                    | 2.7    |           | 1.0 | ug/L | 1       |   | 8260B  | Total/NA  |
| Chloroform                            | 15     |           | 1.0 | ug/L | 1       |   | 8260B  | Total/NA  |
| Trichloroethene                       | 28     |           | 1.0 | ug/L | 1       |   | 8260B  | Total/NA  |
| Trichlorofluoromethane                | 19     |           | 1.0 | ug/L | 1       |   | 8260B  | Total/NA  |
| Tetrachloroethylene - DL              | 260    |           | 10  | ug/L | 10      |   | 8260B  | Total/NA  |

**Client Sample ID: OC\_TB\_110918****Lab Sample ID: 440-224055-3**

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
 SDG: Omega Chemical- Whittier

**Client Sample ID: OC\_SP220B\_EFF\_110918**

**Lab Sample ID: 440-224055-1**

**Matrix: Water**

**Date Collected: 11/09/18 07:55**

**Date Received: 11/09/18 17:23**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte                               | Result    | Qualifier | RL   | Unit | D | Prepared       | Analyzed | Dil Fac |
|---------------------------------------|-----------|-----------|------|------|---|----------------|----------|---------|
| 1,1,1,2-Tetrachloroethane             | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 1,1,1-Trichloroethane                 | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 1,1,2,2-Tetrachloroethane             | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND        |           | 5.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 1,1,2-Trichloroethane                 | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 1,1-Dichloroethane                    | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 1,1-Dichloroethene                    | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 1,1-Dichloropropene                   | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 1,2,3-Trichlorobenzene                | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 1,2,3-Trichloropropane                | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 1,2,4-Trichlorobenzene                | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 1,2,4-Trimethylbenzene                | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 1,2-Dibromo-3-Chloropropane           | ND        |           | 5.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 1,2-Dibromoethane (EDB)               | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 1,2-Dichlorobenzene                   | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 1,2-Dichloroethane                    | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 1,2-Dichloropropane                   | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 1,3,5-Trimethylbenzene                | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 1,3-Dichlorobenzene                   | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 1,3-Dichloropropane                   | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 1,4-Dichlorobenzene                   | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 2,2-Dichloropropane                   | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 2-Chlorotoluene                       | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| 4-Chlorotoluene                       | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| <b>Acetone</b>                        | <b>12</b> |           | 10   | ug/L |   | 11/15/18 00:58 |          | 1       |
| Benzene                               | ND        |           | 0.50 | ug/L |   | 11/15/18 00:58 |          | 1       |
| Bromobenzene                          | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| Bromochloromethane                    | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| Bromodichloromethane                  | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| Bromoform                             | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| Bromomethane                          | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| Carbon tetrachloride                  | ND        |           | 0.50 | ug/L |   | 11/15/18 00:58 |          | 1       |
| Chlorobenzene                         | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| Chloroethane                          | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| Chloroform                            | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| Chloromethane                         | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| cis-1,2-Dichloroethene                | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| cis-1,3-Dichloropropene               | ND        |           | 0.50 | ug/L |   | 11/15/18 00:58 |          | 1       |
| Dibromochloromethane                  | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| Dibromomethane                        | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| Dichlorodifluoromethane               | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| Ethylbenzene                          | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| Hexachlorobutadiene                   | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| Isopropyl alcohol                     | ND        |           | 250  | ug/L |   | 11/15/18 00:58 |          | 1       |
| Isopropylbenzene                      | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| m,p-Xylene                            | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| Methylene Chloride                    | ND        |           | 5.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| Methyl-t-Butyl Ether (MTBE)           | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |
| Naphthalene                           | ND        |           | 1.0  | ug/L |   | 11/15/18 00:58 |          | 1       |

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
 SDG: Omega Chemical- Whittier

**Client Sample ID: OC\_SP220B\_EFF\_110918**

**Lab Sample ID: 440-224055-1**

Matrix: Water

Date Collected: 11/09/18 07:55

Date Received: 11/09/18 17:23

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                      | Result | Qualifier        | RL               | Unit          | D | Prepared        | Analyzed        | Dil Fac        |
|------------------------------|--------|------------------|------------------|---------------|---|-----------------|-----------------|----------------|
| n-Butylbenzene               | ND     |                  | 1.0              | ug/L          |   | 11/15/18 00:58  |                 | 1              |
| N-Propylbenzene              | ND     |                  | 1.0              | ug/L          |   | 11/15/18 00:58  |                 | 1              |
| o-Xylene                     | ND     |                  | 1.0              | ug/L          |   | 11/15/18 00:58  |                 | 1              |
| p-Isopropyltoluene           | ND     |                  | 1.0              | ug/L          |   | 11/15/18 00:58  |                 | 1              |
| sec-Butylbenzene             | ND     |                  | 1.0              | ug/L          |   | 11/15/18 00:58  |                 | 1              |
| Styrene                      | ND     |                  | 1.0              | ug/L          |   | 11/15/18 00:58  |                 | 1              |
| tert-Butylbenzene            | ND     |                  | 1.0              | ug/L          |   | 11/15/18 00:58  |                 | 1              |
| Tetrachloroethene            | ND     |                  | 1.0              | ug/L          |   | 11/15/18 00:58  |                 | 1              |
| Toluene                      | ND     |                  | 1.0              | ug/L          |   | 11/15/18 00:58  |                 | 1              |
| trans-1,2-Dichloroethene     | ND     |                  | 1.0              | ug/L          |   | 11/15/18 00:58  |                 | 1              |
| trans-1,3-Dichloropropene    | ND     |                  | 0.50             | ug/L          |   | 11/15/18 00:58  |                 | 1              |
| Trichloroethene              | ND     |                  | 1.0              | ug/L          |   | 11/15/18 00:58  |                 | 1              |
| Trichlorofluoromethane       | ND     |                  | 1.0              | ug/L          |   | 11/15/18 00:58  |                 | 1              |
| Vinyl chloride               | ND     |                  | 0.50             | ug/L          |   | 11/15/18 00:58  |                 | 1              |
| <b>Surrogate</b>             |        | <b>%Recovery</b> | <b>Qualifier</b> | <b>Limits</b> |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| 1,2-Dichloroethane-d4 (Surr) | 111    |                  |                  | 70 - 130      |   | 11/15/18 00:58  |                 | 1              |
| 4-Bromofluorobenzene (Surr)  | 103    |                  |                  | 80 - 120      |   | 11/15/18 00:58  |                 | 1              |
| Dibromofluoromethane (Surr)  | 104    |                  |                  | 76 - 132      |   | 11/15/18 00:58  |                 | 1              |
| Toluene-d8 (Surr)            | 109    |                  |                  | 80 - 128      |   | 11/15/18 00:58  |                 | 1              |

## Method: 8270C SIM - 1,4 Dioxane by SIM

| Analyte               | Result | Qualifier        | RL               | Unit          | D | Prepared        | Analyzed        | Dil Fac        |
|-----------------------|--------|------------------|------------------|---------------|---|-----------------|-----------------|----------------|
| 1,4-Dioxane           | 15     |                  | 0.49             | ug/L          |   | 11/15/18 08:14  | 11/16/18 17:24  | 1              |
| <b>Surrogate</b>      |        | <b>%Recovery</b> | <b>Qualifier</b> | <b>Limits</b> |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| 1,4-Dioxane-d8 (Surr) | 52     |                  |                  | 27 - 120      |   | 11/15/18 08:14  | 11/16/18 17:24  | 1              |

**Client Sample ID: OC\_SP210\_INF\_110918**

**Lab Sample ID: 440-224055-2**

Matrix: Water

Date Collected: 11/09/18 08:01

Date Received: 11/09/18 17:23

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte                                      | Result     | Qualifier | RL  | Unit | D | Prepared       | Analyzed | Dil Fac |
|--|------------|-----------|-----|------|---|----------------|----------|---------|
| 1,1,1,2-Tetrachloroethane                    | ND         |           | 1.0 | ug/L |   | 11/15/18 01:25 |          | 1       |
| 1,1,1-Trichloroethane                        | ND         |           | 1.0 | ug/L |   | 11/15/18 01:25 |          | 1       |
| 1,1,2,2-Tetrachloroethane                    | ND         |           | 1.0 | ug/L |   | 11/15/18 01:25 |          | 1       |
| <b>1,1,2-Trichloro-1,2,2-trifluoroethane</b> | <b>81</b>  |           | 5.0 | ug/L |   | 11/15/18 01:25 |          | 1       |
| 1,1,2-Trichloroethane                        | ND         |           | 1.0 | ug/L |   | 11/15/18 01:25 |          | 1       |
| 1,1-Dichloroethane                           | ND         |           | 1.0 | ug/L |   | 11/15/18 01:25 |          | 1       |
| <b>1,1-Dichloroethene</b>                    | <b>38</b>  |           | 1.0 | ug/L |   | 11/15/18 01:25 |          | 1       |
| 1,1-Dichloropropene                          | ND         |           | 1.0 | ug/L |   | 11/15/18 01:25 |          | 1       |
| 1,2,3-Trichlorobenzene                       | ND         |           | 1.0 | ug/L |   | 11/15/18 01:25 |          | 1       |
| 1,2,3-Trichloropropane                       | ND         |           | 1.0 | ug/L |   | 11/15/18 01:25 |          | 1       |
| 1,2,4-Trichlorobenzene                       | ND         |           | 1.0 | ug/L |   | 11/15/18 01:25 |          | 1       |
| 1,2,4-Trimethylbenzene                       | ND         |           | 1.0 | ug/L |   | 11/15/18 01:25 |          | 1       |
| 1,2-Dibromo-3-Chloropropane                  | ND         |           | 5.0 | ug/L |   | 11/15/18 01:25 |          | 1       |
| 1,2-Dibromoethane (EDB)                      | ND         |           | 1.0 | ug/L |   | 11/15/18 01:25 |          | 1       |
| 1,2-Dichlorobenzene                          | ND         |           | 1.0 | ug/L |   | 11/15/18 01:25 |          | 1       |
| <b>1,2-Dichloroethane</b>                    | <b>2.7</b> |           | 1.0 | ug/L |   | 11/15/18 01:25 |          | 1       |

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
 SDG: Omega Chemical- Whittier

**Client Sample ID: OC\_SP210\_INF\_110918**

**Lab Sample ID: 440-224055-2**

**Matrix: Water**

Date Collected: 11/09/18 08:01

Date Received: 11/09/18 17:23

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                       | Result           | Qualifier        | RL            | Unit | D | Prepared        | Analyzed        | Dil Fac        |
|-------------------------------|------------------|------------------|---------------|------|---|-----------------|-----------------|----------------|
| 1,2-Dichloropropane           | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| 1,3,5-Trimethylbenzene        | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| 1,3-Dichlorobenzene           | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| 1,3-Dichloropropane           | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| 1,4-Dichlorobenzene           | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| 2,2-Dichloropropane           | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| 2-Chlorotoluene               | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| 4-Chlorotoluene               | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Acetone                       | ND               |                  | 10            | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Benzene                       | ND               |                  | 0.50          | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Bromobenzene                  | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Bromochloromethane            | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Bromodichloromethane          | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Bromoform                     | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Bromomethane                  | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Carbon tetrachloride          | ND               |                  | 0.50          | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Chlorobenzene                 | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Chloroethane                  | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| <b>Chloroform</b>             | <b>15</b>        |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Chloromethane                 | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| cis-1,2-Dichloroethene        | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| cis-1,3-Dichloropropene       | ND               |                  | 0.50          | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Dibromochloromethane          | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Dibromomethane                | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Dichlorodifluoromethane       | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Ethylbenzene                  | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Hexachlorobutadiene           | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Isopropyl alcohol             | ND               |                  | 250           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Isopropylbenzene              | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| m,p-Xylene                    | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Methylene Chloride            | ND               |                  | 5.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Methyl-t-Butyl Ether (MTBE)   | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Naphthalene                   | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| n-Butylbenzene                | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| N-Propylbenzene               | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| o-Xylene                      | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| p-Isopropyltoluene            | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| sec-Butylbenzene              | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Styrene                       | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| tert-Butylbenzene             | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Toluene                       | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| trans-1,2-Dichloroethene      | ND               |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| trans-1,3-Dichloropropene     | ND               |                  | 0.50          | ug/L |   | 11/15/18 01:25  |                 | 1              |
| <b>Trichloroethene</b>        | <b>28</b>        |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| <b>Trichlorofluoromethane</b> | <b>19</b>        |                  | 1.0           | ug/L |   | 11/15/18 01:25  |                 | 1              |
| Vinyl chloride                | ND               |                  | 0.50          | ug/L |   | 11/15/18 01:25  |                 | 1              |
| <b>Surrogate</b>              | <b>%Recovery</b> | <b>Qualifier</b> | <b>Limits</b> |      |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| 1,2-Dichloroethane-d4 (Surr)  | 106              |                  | 70 - 130      |      |   | 11/15/18 01:25  |                 | 1              |
| 4-Bromofluorobenzene (Surr)   | 102              |                  | 80 - 120      |      |   | 11/15/18 01:25  |                 | 1              |

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
 SDG: Omega Chemical- Whittier

**Client Sample ID: OC\_SP210\_INF\_110918**

**Lab Sample ID: 440-224055-2**

Matrix: Water

Date Collected: 11/09/18 08:01

Date Received: 11/09/18 17:23

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------|----------------|---------|
| Dibromofluoromethane (Surr) | 102       |           | 76 - 132 |          | 11/15/18 01:25 | 1       |
| Toluene-d8 (Surr)           | 109       |           | 80 - 128 |          | 11/15/18 01:25 | 1       |

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

| Analyte                      | Result    | Qualifier | RL       | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|------|---|----------|----------------|---------|
| Tetrachloroethene            | 260       |           | 10       | ug/L |   |          | 11/15/18 01:53 | 10      |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 107       |           | 70 - 130 |      |   |          | 11/15/18 01:53 | 10      |
| 4-Bromofluorobenzene (Surr)  | 104       |           | 80 - 120 |      |   |          | 11/15/18 01:53 | 10      |
| Dibromofluoromethane (Surr)  | 104       |           | 76 - 132 |      |   |          | 11/15/18 01:53 | 10      |
| Toluene-d8 (Surr)            | 108       |           | 80 - 128 |      |   |          | 11/15/18 01:53 | 10      |

**Client Sample ID: OC\_TB\_110918**

**Lab Sample ID: 440-224055-3**

Matrix: Water

Date Collected: 11/09/18 07:50

Date Received: 11/09/18 17:23

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte                               | Result | Qualifier | RL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|--------|-----------|------|------|---|----------|----------------|---------|
| 1,1,1,2-Tetrachloroethane             | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 1,1,1-Trichloroethane                 | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 1,1,2,2-Tetrachloroethane             | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND     |           | 5.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 1,1,2-Trichloroethane                 | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 1,1-Dichloroethane                    | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 1,1-Dichloroethene                    | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 1,1-Dichloropropene                   | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 1,2,3-Trichlorobenzene                | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 1,2,3-Trichloropropane                | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 1,2,4-Trichlorobenzene                | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 1,2,4-Trimethylbenzene                | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 1,2-Dibromo-3-Chloropropane           | ND     |           | 5.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 1,2-Dibromoethane (EDB)               | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 1,2-Dichlorobenzene                   | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 1,2-Dichloroethane                    | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 1,2-Dichloropropane                   | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 1,3,5-Trimethylbenzene                | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 1,3-Dichlorobenzene                   | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 1,3-Dichloropropane                   | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 1,4-Dichlorobenzene                   | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 2,2-Dichloropropane                   | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 2-Chlorotoluene                       | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| 4-Chlorotoluene                       | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| Acetone                               | ND     |           | 10   | ug/L |   |          | 11/15/18 02:20 | 1       |
| Benzene                               | ND     |           | 0.50 | ug/L |   |          | 11/15/18 02:20 | 1       |
| Bromobenzene                          | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| Bromochloromethane                    | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| Bromodichloromethane                  | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| Bromoform                             | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |
| Bromomethane                          | ND     |           | 1.0  | ug/L |   |          | 11/15/18 02:20 | 1       |

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
 SDG: Omega Chemical- Whittier

**Client Sample ID: OC\_TB\_110918**

**Lab Sample ID: 440-224055-3**

Date Collected: 11/09/18 07:50

Matrix: Water

Date Received: 11/09/18 17:23

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                      | Result    | Qualifier | RL       | Unit | D        | Prepared       | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|------|----------|----------------|----------|---------|
| Carbon tetrachloride         | ND        |           | 0.50     | ug/L |          | 11/15/18 02:20 |          | 1       |
| Chlorobenzene                | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| Chloroethane                 | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| Chloroform                   | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| Chloromethane                | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| cis-1,2-Dichloroethene       | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| cis-1,3-Dichloropropene      | ND        |           | 0.50     | ug/L |          | 11/15/18 02:20 |          | 1       |
| Dibromochloromethane         | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| Dibromomethane               | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| Dichlorodifluoromethane      | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| Ethylbenzene                 | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| Hexachlorobutadiene          | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| Isopropyl alcohol            | ND        |           | 250      | ug/L |          | 11/15/18 02:20 |          | 1       |
| Isopropylbenzene             | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| m,p-Xylene                   | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| Methylene Chloride           | ND        |           | 5.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| Methyl-t-Butyl Ether (MTBE)  | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| Naphthalene                  | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| n-Butylbenzene               | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| N-Propylbenzene              | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| o-Xylene                     | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| p-Isopropyltoluene           | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| sec-Butylbenzene             | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| Styrene                      | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| tert-Butylbenzene            | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| Tetrachloroethene            | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| Toluene                      | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| trans-1,2-Dichloroethene     | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| trans-1,3-Dichloropropene    | ND        |           | 0.50     | ug/L |          | 11/15/18 02:20 |          | 1       |
| Trichloroethene              | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| Trichlorofluoromethane       | ND        |           | 1.0      | ug/L |          | 11/15/18 02:20 |          | 1       |
| Vinyl chloride               | ND        |           | 0.50     | ug/L |          | 11/15/18 02:20 |          | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      | Prepared | Analyzed       | Dil Fac  |         |
| 1,2-Dichloroethane-d4 (Surr) | 114       |           | 70 - 130 |      |          | 11/15/18 02:20 |          | 1       |
| 4-Bromofluorobenzene (Surr)  | 104       |           | 80 - 120 |      |          | 11/15/18 02:20 |          | 1       |
| Dibromofluoromethane (Surr)  | 107       |           | 76 - 132 |      |          | 11/15/18 02:20 |          | 1       |
| Toluene-d8 (Surr)            | 106       |           | 80 - 128 |      |          | 11/15/18 02:20 |          | 1       |

# Surrogate Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
SDG: Omega Chemical- Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID       | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                 |                  |                 |
|---------------------|------------------------|--|-----------------|------------------|-----------------|
|                     |                        | DCA<br>(70-130)                                | BFB<br>(80-120) | DBFM<br>(76-132) | TOL<br>(80-128) |
| 440-224020-A-9 MS   | Matrix Spike           | 103  | 100             | 102              | 103             |
| 440-224020-A-9 MSD  | Matrix Spike Duplicate | 103  | 102             | 102              | 104             |
| 440-224055-1        | OC_SP220B_EFF_110918   | 111  | 103             | 104              | 109             |
| 440-224055-2        | OC_SP210_INF_110918    | 106  | 102             | 102              | 109             |
| 440-224055-2 - DL   | OC_SP210_INF_110918    | 107  | 104             | 104              | 108             |
| 440-224055-3        | OC_TB_110918           | 114  | 104             | 107              | 106             |
| LCS 440-511271/1003 | Lab Control Sample     | 111  | 101             | 104              | 108             |
| LCS 440-511271/6    | Lab Control Sample     | 104  | 101             | 102              | 105             |
| MB 440-511271/5     | Method Blank           | 120  | 103             | 108              | 108             |

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Bromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

## Method: 8270C SIM - 1,4 Dioxane by SIM

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID       | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |  |  |  |
|---------------------|------------------------|--|--|--|--|
|                     |                        | DXE<br>(27-120)                                |  |  |  |
| 440-224055-1        | OC_SP220B_EFF_110918   | 52   |  |  |  |
| LCS 440-511375/3-A  | Lab Control Sample     | 57   |  |  |  |
| LCSD 440-511375/4-A | Lab Control Sample Dup | 52   |  |  |  |
| MB 440-511375/1-A   | Method Blank           | 51   |  |  |  |

### Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

## Method Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
SDG: Omega Chemical- Whittier

| Method    | Method Description                    | Protocol | Laboratory |
|-----------|---------------------------------------|----------|------------|
| 8260B     | Volatile Organic Compounds (GC/MS)    | SW846    | TAL IRV    |
| 8270C SIM | 1,4 Dioxane by SIM                    | SW846    | TAL IRV    |
| 3520C     | Liquid-Liquid Extraction (Continuous) | SW846    | TAL IRV    |
| 5030B     | Purge and Trap                        | SW846    | TAL IRV    |

### Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

# Lab Chronicle

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
 SDG: Omega Chemical- Whittier

**Client Sample ID: OC\_SP220B\_EFF\_110918**

**Lab Sample ID: 440-224055-1**

**Matrix: Water**

**Date Collected: 11/09/18 07:55**

**Date Received: 11/09/18 17:23**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260B        |     | 1          | 10 mL          | 10 mL        | 511271       | 11/15/18 00:58       | GK      | TAL IRV |
| Total/NA  | Prep       | 3520C        |     |            | 1020 mL        | 1.0 mL       | 511375       | 11/15/18 08:14       | JAA     | TAL IRV |
| Total/NA  | Analysis   | 8270C SIM    |     | 1          |                |              | 511746       | 11/16/18 17:24       | L1B     | TAL IRV |

**Client Sample ID: OC\_SP210\_INF\_110918**

**Lab Sample ID: 440-224055-2**

**Matrix: Water**

**Date Collected: 11/09/18 08:01**

**Date Received: 11/09/18 17:23**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260B        |     | 1          | 10 mL          | 10 mL        | 511271       | 11/15/18 01:25       | GK      | TAL IRV |
| Total/NA  | Analysis   | 8260B        | DL  | 10         | 10 mL          | 10 mL        | 511271       | 11/15/18 01:53       | GK      | TAL IRV |

**Client Sample ID: OC\_TB\_110918**

**Lab Sample ID: 440-224055-3**

**Matrix: Water**

**Date Collected: 11/09/18 07:50**

**Date Received: 11/09/18 17:23**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260B        |     | 1          | 10 mL          | 10 mL        | 511271       | 11/15/18 02:20       | GK      | TAL IRV |

## Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
 SDG: Omega Chemical- Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 440-511271/5**

**Matrix: Water**

**Analysis Batch: 511271**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

| Analyte                               | MB Result | MB Qualifier | RL   | Unit | D | Prepared       | Analyzed | Dil Fac |
|---------------------------------------|-----------|--------------|------|------|---|----------------|----------|---------|
| 1,1,1,2-Tetrachloroethane             | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 1,1,1-Trichloroethane                 | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 1,1,2,2-Tetrachloroethane             | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND        |              | 5.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 1,1,2-Trichloroethane                 | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 1,1-Dichloroethane                    | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 1,1-Dichloroethene                    | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 1,1-Dichloropropene                   | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 1,2,3-Trichlorobenzene                | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 1,2,3-Trichloropropane                | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 1,2,4-Trichlorobenzene                | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 1,2,4-Trimethylbenzene                | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 1,2-Dibromo-3-Chloropropane           | ND        |              | 5.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 1,2-Dibromoethane (EDB)               | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 1,2-Dichlorobenzene                   | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 1,2-Dichloroethane                    | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 1,2-Dichloropropane                   | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 1,3,5-Trimethylbenzene                | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 1,3-Dichlorobenzene                   | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 1,3-Dichloropropane                   | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 1,4-Dichlorobenzene                   | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 2,2-Dichloropropane                   | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 2-Chlorotoluene                       | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| 4-Chlorotoluene                       | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| Acetone                               | ND        |              | 10   | ug/L |   | 11/14/18 20:40 |          | 1       |
| Benzene                               | ND        |              | 0.50 | ug/L |   | 11/14/18 20:40 |          | 1       |
| Bromobenzene                          | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| Bromochloromethane                    | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| Bromodichloromethane                  | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| Bromoform                             | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| Bromomethane                          | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| Carbon tetrachloride                  | ND        |              | 0.50 | ug/L |   | 11/14/18 20:40 |          | 1       |
| Chlorobenzene                         | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| Chloroethane                          | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| Chloroform                            | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| Chloromethane                         | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| cis-1,2-Dichloroethene                | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| cis-1,3-Dichloropropene               | ND        |              | 0.50 | ug/L |   | 11/14/18 20:40 |          | 1       |
| Dibromochloromethane                  | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| Dibromomethane                        | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| Dichlorodifluoromethane               | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| Ethylbenzene                          | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| Hexachlorobutadiene                   | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| Isopropyl alcohol                     | ND        |              | 250  | ug/L |   | 11/14/18 20:40 |          | 1       |
| Isopropylbenzene                      | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| m,p-Xylene                            | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| Methylene Chloride                    | ND        |              | 5.0  | ug/L |   | 11/14/18 20:40 |          | 1       |
| Methyl-t-Butyl Ether (MTBE)           | ND        |              | 1.0  | ug/L |   | 11/14/18 20:40 |          | 1       |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
 SDG: Omega Chemical- Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID:** MB 440-511271/5

**Matrix:** Water

**Analysis Batch:** 511271

**Client Sample ID:** Method Blank  
**Prep Type:** Total/NA

| Analyte                   | MB | MB | Result | Qualifier | RL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------------|----|----|--------|-----------|------|------|---|----------|----------------|---------|
|                           |    |    |        |           |      |      |   |          |                |         |
| Naphthalene               | ND |    |        |           | 1.0  | ug/L |   |          | 11/14/18 20:40 | 1       |
| n-Butylbenzene            | ND |    |        |           | 1.0  | ug/L |   |          | 11/14/18 20:40 | 1       |
| N-Propylbenzene           | ND |    |        |           | 1.0  | ug/L |   |          | 11/14/18 20:40 | 1       |
| o-Xylene                  | ND |    |        |           | 1.0  | ug/L |   |          | 11/14/18 20:40 | 1       |
| p-Isopropyltoluene        | ND |    |        |           | 1.0  | ug/L |   |          | 11/14/18 20:40 | 1       |
| sec-Butylbenzene          | ND |    |        |           | 1.0  | ug/L |   |          | 11/14/18 20:40 | 1       |
| Styrene                   | ND |    |        |           | 1.0  | ug/L |   |          | 11/14/18 20:40 | 1       |
| tert-Butylbenzene         | ND |    |        |           | 1.0  | ug/L |   |          | 11/14/18 20:40 | 1       |
| Tetrachloroethene         | ND |    |        |           | 1.0  | ug/L |   |          | 11/14/18 20:40 | 1       |
| Toluene                   | ND |    |        |           | 1.0  | ug/L |   |          | 11/14/18 20:40 | 1       |
| trans-1,2-Dichloroethene  | ND |    |        |           | 1.0  | ug/L |   |          | 11/14/18 20:40 | 1       |
| trans-1,3-Dichloropropene | ND |    |        |           | 0.50 | ug/L |   |          | 11/14/18 20:40 | 1       |
| Trichloroethene           | ND |    |        |           | 1.0  | ug/L |   |          | 11/14/18 20:40 | 1       |
| Trichlorofluoromethane    | ND |    |        |           | 1.0  | ug/L |   |          | 11/14/18 20:40 | 1       |
| Vinyl chloride            | ND |    |        |           | 0.50 | ug/L |   |          | 11/14/18 20:40 | 1       |

| Surrogate                    | MB  | MB | %Recovery | Qualifier | Limits   |  | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----|----|-----------|-----------|----------|--|----------|----------------|---------|
|                              |     |    |           |           |          |  |          |                |         |
| 1,2-Dichloroethane-d4 (Surr) | 120 |    | 120       |           | 70 - 130 |  |          | 11/14/18 20:40 | 1       |
| 4-Bromofluorobenzene (Surr)  | 103 |    | 103       |           | 80 - 120 |  |          | 11/14/18 20:40 | 1       |
| Dibromofluoromethane (Surr)  | 108 |    | 108       |           | 76 - 132 |  |          | 11/14/18 20:40 | 1       |
| Toluene-d8 (Surr)            | 108 |    | 108       |           | 80 - 128 |  |          | 11/14/18 20:40 | 1       |

**Lab Sample ID:** LCS 440-511271/1003

**Matrix:** Water

**Analysis Batch:** 511271

**Client Sample ID:** Lab Control Sample  
**Prep Type:** Total/NA

| Analyte           | Spikes | LCS    | LCS      | Result | Qualifier | Unit | D | %Rec. | Limits   |
|-------------------|--------|--------|----------|--------|-----------|------|---|-------|----------|
|                   | Added  | Result | Qualifer |        |           |      |   |       |          |
| Isopropyl alcohol | 250    | 207    | J        |        |           | ug/L |   | 83    | 49 - 142 |

| Surrogate                    | LCs       | LCs       | %Recovery | Qualifier | Limits   |
|------------------------------|-----------|-----------|-----------|-----------|----------|
|                              | %Recovery | Qualifier |           |           |          |
| 1,2-Dichloroethane-d4 (Surr) | 111       |           | 111       |           | 70 - 130 |
| 4-Bromofluorobenzene (Surr)  | 101       |           | 101       |           | 80 - 120 |
| Dibromofluoromethane (Surr)  | 104       |           | 104       |           | 76 - 132 |
| Toluene-d8 (Surr)            | 108       |           | 108       |           | 80 - 128 |

**Lab Sample ID:** LCS 440-511271/6

**Matrix:** Water

**Analysis Batch:** 511271

**Client Sample ID:** Lab Control Sample  
**Prep Type:** Total/NA

| Analyte                               | Spike | LCS    | LCS      | Result | Qualifier | Unit | D | %Rec. | Limits   |
|---------------------------------------|-------|--------|----------|--------|-----------|------|---|-------|----------|
|                                       | Added | Result | Qualifer |        |           |      |   |       |          |
| 1,1,1,2-Tetrachloroethane             | 25.0  | 27.1   |          |        |           | ug/L |   | 108   | 60 - 141 |
| 1,1,1-Trichloroethane                 | 25.0  | 26.7   |          |        |           | ug/L |   | 107   | 70 - 130 |
| 1,1,2,2-Tetrachloroethane             | 25.0  | 23.9   |          |        |           | ug/L |   | 95    | 63 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 25.0  | 24.2   |          |        |           | ug/L |   | 97    | 60 - 140 |
| 1,1,2-Trichloroethane                 | 25.0  | 25.3   |          |        |           | ug/L |   | 101   | 70 - 130 |
| 1,1-Dichloroethane                    | 25.0  | 26.0   |          |        |           | ug/L |   | 104   | 64 - 130 |
| 1,1-Dichloroethene                    | 25.0  | 24.5   |          |        |           | ug/L |   | 98    | 70 - 130 |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
 SDG: Omega Chemical- Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-511271/6**

**Matrix: Water**

**Analysis Batch: 511271**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

| Analyte                     | Spike | LCS    | LCS       | Unit | D | %Rec | %Rec.    | Limits | 1  |
|-----------------------------|-------|--------|-----------|------|---|------|----------|--------|----|
|                             | Added | Result | Qualifier |      |   |      |          |        |    |
| 1,1-Dichloropropene         | 25.0  | 26.1   |           | ug/L |   | 105  | 70 - 130 |        | 2  |
| 1,2,3-Trichlorobenzene      | 25.0  | 26.1   |           | ug/L |   | 105  | 60 - 140 |        | 3  |
| 1,2,3-Trichloropropane      | 25.0  | 22.5   |           | ug/L |   | 90   | 63 - 130 |        | 4  |
| 1,2,4-Trichlorobenzene      | 25.0  | 26.7   |           | ug/L |   | 107  | 60 - 140 |        | 5  |
| 1,2,4-Trimethylbenzene      | 25.0  | 26.4   |           | ug/L |   | 106  | 70 - 135 |        | 6  |
| 1,2-Dibromo-3-Chloropropane | 25.0  | 23.5   |           | ug/L |   | 94   | 52 - 140 |        | 7  |
| 1,2-Dibromoethane (EDB)     | 25.0  | 25.1   |           | ug/L |   | 100  | 70 - 130 |        | 8  |
| 1,2-Dichlorobenzene         | 25.0  | 25.7   |           | ug/L |   | 103  | 70 - 130 |        | 9  |
| 1,2-Dichloroethane          | 25.0  | 25.2   |           | ug/L |   | 101  | 57 - 138 |        | 10 |
| 1,2-Dichloropropane         | 25.0  | 27.1   |           | ug/L |   | 108  | 67 - 130 |        | 11 |
| 1,3,5-Trimethylbenzene      | 25.0  | 26.7   |           | ug/L |   | 107  | 70 - 136 |        | 12 |
| 1,3-Dichlorobenzene         | 25.0  | 25.2   |           | ug/L |   | 101  | 70 - 130 |        | 13 |
| 1,3-Dichloropropane         | 25.0  | 24.8   |           | ug/L |   | 99   | 70 - 130 |        | 14 |
| 1,4-Dichlorobenzene         | 25.0  | 24.8   |           | ug/L |   | 99   | 70 - 130 |        | 15 |
| 2,2-Dichloropropane         | 25.0  | 27.0   |           | ug/L |   | 108  | 68 - 141 |        | 1  |
| 2-Chlorotoluene             | 25.0  | 26.1   |           | ug/L |   | 105  | 70 - 130 |        | 2  |
| 4-Chlorotoluene             | 25.0  | 26.6   |           | ug/L |   | 106  | 70 - 130 |        | 3  |
| Acetone                     | 25.0  | 27.0   |           | ug/L |   | 108  | 10 - 150 |        | 4  |
| Benzene                     | 25.0  | 25.0   |           | ug/L |   | 100  | 68 - 130 |        | 5  |
| Bromobenzene                | 25.0  | 25.9   |           | ug/L |   | 103  | 70 - 130 |        | 6  |
| Bromochloromethane          | 25.0  | 25.9   |           | ug/L |   | 104  | 70 - 130 |        | 7  |
| Bromodichloromethane        | 25.0  | 27.4   |           | ug/L |   | 110  | 70 - 132 |        | 8  |
| Bromoform                   | 25.0  | 23.1   |           | ug/L |   | 93   | 60 - 148 |        | 9  |
| Bromomethane                | 25.0  | 21.9   |           | ug/L |   | 88   | 64 - 139 |        | 10 |
| Carbon tetrachloride        | 25.0  | 26.3   |           | ug/L |   | 105  | 60 - 150 |        | 11 |
| Chlorobenzene               | 25.0  | 24.7   |           | ug/L |   | 99   | 70 - 130 |        | 12 |
| Chloroethane                | 25.0  | 22.3   |           | ug/L |   | 89   | 64 - 135 |        | 13 |
| Chloroform                  | 25.0  | 26.2   |           | ug/L |   | 105  | 70 - 130 |        | 14 |
| Chloromethane               | 25.0  | 19.2   |           | ug/L |   | 77   | 47 - 140 |        | 15 |
| cis-1,2-Dichloroethene      | 25.0  | 26.2   |           | ug/L |   | 105  | 70 - 133 |        | 1  |
| cis-1,3-Dichloropropene     | 25.0  | 27.7   |           | ug/L |   | 111  | 70 - 133 |        | 2  |
| Dibromochloromethane        | 25.0  | 26.7   |           | ug/L |   | 107  | 69 - 145 |        | 3  |
| Dibromomethane              | 25.0  | 24.6   |           | ug/L |   | 98   | 70 - 130 |        | 4  |
| Dichlorodifluoromethane     | 25.0  | 16.2   |           | ug/L |   | 65   | 29 - 150 |        | 5  |
| Ethylbenzene                | 25.0  | 24.9   |           | ug/L |   | 100  | 70 - 130 |        | 6  |
| Hexachlorobutadiene         | 25.0  | 26.4   |           | ug/L |   | 106  | 10 - 150 |        | 7  |
| Isopropylbenzene            | 25.0  | 25.8   |           | ug/L |   | 103  | 70 - 136 |        | 8  |
| m,p-Xylene                  | 25.0  | 26.2   |           | ug/L |   | 105  | 70 - 130 |        | 9  |
| Methylene Chloride          | 25.0  | 24.3   |           | ug/L |   | 97   | 52 - 130 |        | 10 |
| Methyl-t-Butyl Ether (MTBE) | 25.0  | 24.0   |           | ug/L |   | 96   | 63 - 131 |        | 11 |
| Naphthalene                 | 25.0  | 23.7   |           | ug/L |   | 95   | 60 - 140 |        | 12 |
| n-Butylbenzene              | 25.0  | 27.5   |           | ug/L |   | 110  | 65 - 150 |        | 13 |
| N-Propylbenzene             | 25.0  | 25.8   |           | ug/L |   | 103  | 67 - 139 |        | 14 |
| o-Xylene                    | 25.0  | 25.8   |           | ug/L |   | 103  | 70 - 130 |        | 15 |
| p-Isopropyltoluene          | 25.0  | 27.0   |           | ug/L |   | 108  | 70 - 132 |        | 1  |
| sec-Butylbenzene            | 25.0  | 26.0   |           | ug/L |   | 104  | 70 - 138 |        | 2  |
| Styrene                     | 25.0  | 26.1   |           | ug/L |   | 105  | 70 - 134 |        | 3  |
| tert-Butylbenzene           | 25.0  | 26.2   |           | ug/L |   | 105  | 70 - 130 |        | 4  |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
 SDG: Omega Chemical- Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-511271/6**

**Matrix: Water**

**Analysis Batch: 511271**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

| Analyte                   | Spike | LCS    | LCS       | Unit | D | %Rec | %Rec.    | Limits |  |
|---------------------------|-------|--------|-----------|------|---|------|----------|--------|--|
|                           | Added | Result | Qualifier |      |   |      |          |        |  |
| Tetrachloroethene         | 25.0  | 24.9   |           | ug/L |   | 100  | 70 - 130 |        |  |
| Toluene                   | 25.0  | 25.1   |           | ug/L |   | 100  | 70 - 130 |        |  |
| trans-1,2-Dichloroethene  | 25.0  | 27.0   |           | ug/L |   | 108  | 70 - 130 |        |  |
| trans-1,3-Dichloropropene | 25.0  | 26.8   |           | ug/L |   | 107  | 70 - 132 |        |  |
| Trichloroethene           | 25.0  | 25.4   |           | ug/L |   | 101  | 70 - 130 |        |  |
| Trichlorofluoromethane    | 25.0  | 23.1   |           | ug/L |   | 92   | 60 - 150 |        |  |
| Vinyl chloride            | 25.0  | 21.3   |           | ug/L |   | 85   | 59 - 133 |        |  |

| Surrogate                    | LCS       | LCS       | Limits   |
|------------------------------|-----------|-----------|----------|
|                              | %Recovery | Qualifier |          |
| 1,2-Dichloroethane-d4 (Surr) | 104       |           | 70 - 130 |
| 4-Bromofluorobenzene (Surr)  | 101       |           | 80 - 120 |
| Dibromofluoromethane (Surr)  | 102       |           | 76 - 132 |
| Toluene-d8 (Surr)            | 105       |           | 80 - 128 |

**Lab Sample ID: 440-224020-A-9 MS**

**Matrix: Water**

**Analysis Batch: 511271**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

| Analyte                               | Sample | Sample    | Spike | MS     | MS        | Unit | D | %Rec | %Rec.    |
|---------------------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|
|                                       | Result | Qualifier | Added | Result | Qualifier |      |   |      |          |
| 1,1,1,2-Tetrachloroethane             | ND     |           | 25.0  | 27.4   |           | ug/L |   | 110  | 60 - 149 |
| 1,1,1-Trichloroethane                 | ND     |           | 25.0  | 27.0   |           | ug/L |   | 108  | 70 - 130 |
| 1,1,2,2-Tetrachloroethane             | ND     |           | 25.0  | 24.3   |           | ug/L |   | 97   | 63 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND     |           | 25.0  | 25.8   |           | ug/L |   | 99   | 60 - 140 |
| 1,1,2-Trichloroethane                 | ND     |           | 25.0  | 25.1   |           | ug/L |   | 100  | 70 - 130 |
| 1,1-Dichloroethane                    | ND     |           | 25.0  | 25.9   |           | ug/L |   | 104  | 65 - 130 |
| 1,1-Dichloroethene                    | ND     |           | 25.0  | 25.3   |           | ug/L |   | 101  | 70 - 130 |
| 1,1-Dichloropropene                   | ND     |           | 25.0  | 26.4   |           | ug/L |   | 105  | 64 - 130 |
| 1,2,3-Trichlorobenzene                | ND     |           | 25.0  | 27.3   |           | ug/L |   | 109  | 60 - 140 |
| 1,2,3-Trichloropropane                | ND     |           | 25.0  | 22.7   |           | ug/L |   | 91   | 60 - 130 |
| 1,2,4-Trichlorobenzene                | ND     |           | 25.0  | 27.7   |           | ug/L |   | 111  | 60 - 140 |
| 1,2,4-Trimethylbenzene                | ND     |           | 25.0  | 26.6   |           | ug/L |   | 106  | 70 - 130 |
| 1,2-Dibromo-3-Chloropropane           | ND     |           | 25.0  | 24.0   |           | ug/L |   | 96   | 48 - 140 |
| 1,2-Dibromoethane (EDB)               | ND     |           | 25.0  | 25.0   |           | ug/L |   | 100  | 70 - 131 |
| 1,2-Dichlorobenzene                   | ND     |           | 25.0  | 26.2   |           | ug/L |   | 105  | 70 - 130 |
| 1,2-Dichloroethane                    | ND     |           | 25.0  | 25.6   |           | ug/L |   | 103  | 56 - 146 |
| 1,2-Dichloropropane                   | ND     |           | 25.0  | 27.3   |           | ug/L |   | 109  | 69 - 130 |
| 1,3,5-Trimethylbenzene                | ND     |           | 25.0  | 27.1   |           | ug/L |   | 108  | 70 - 130 |
| 1,3-Dichlorobenzene                   | ND     |           | 25.0  | 25.4   |           | ug/L |   | 102  | 70 - 130 |
| 1,3-Dichloropropane                   | ND     |           | 25.0  | 25.0   |           | ug/L |   | 100  | 70 - 130 |
| 1,4-Dichlorobenzene                   | ND     |           | 25.0  | 24.8   |           | ug/L |   | 99   | 70 - 130 |
| 2,2-Dichloropropane                   | ND     |           | 25.0  | 27.8   |           | ug/L |   | 111  | 69 - 138 |
| 2-Chlorotoluene                       | ND     |           | 25.0  | 26.3   |           | ug/L |   | 105  | 70 - 130 |
| 4-Chlorotoluene                       | ND     |           | 25.0  | 26.8   |           | ug/L |   | 107  | 70 - 130 |
| Acetone                               | 12     |           | 25.0  | 42.5   |           | ug/L |   | 121  | 10 - 150 |
| Benzene                               | ND     |           | 25.0  | 25.1   |           | ug/L |   | 101  | 66 - 130 |
| Bromobenzene                          | ND     |           | 25.0  | 26.1   |           | ug/L |   | 104  | 70 - 130 |
| Bromochloromethane                    | ND     |           | 25.0  | 26.0   |           | ug/L |   | 104  | 70 - 130 |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
 SDG: Omega Chemical- Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-224020-A-9 MS**

**Matrix: Water**

**Analysis Batch: 511271**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

| Analyte                      | Sample           | Sample           | Spike | MS        | MS        | Unit | D | %Rec | %Rec.    | Limits |  |
|------------------------------|------------------|------------------|-------|-----------|-----------|------|---|------|----------|--------|--|
|                              | Result           | Qualifier        | Added | Result    | Qualifier |      |   |      |          |        |  |
| Bromodichloromethane         | ND               |                  | 25.0  | 28.0      |           | ug/L |   | 112  | 70 - 138 |        |  |
| Bromoform                    | ND               |                  | 25.0  | 23.8      |           | ug/L |   | 95   | 59 - 150 |        |  |
| Bromomethane                 | ND               |                  | 25.0  | 21.5      |           | ug/L |   | 86   | 62 - 131 |        |  |
| Carbon tetrachloride         | ND               |                  | 25.0  | 26.8      |           | ug/L |   | 107  | 60 - 150 |        |  |
| Chlorobenzene                | ND               |                  | 25.0  | 24.3      |           | ug/L |   | 97   | 70 - 130 |        |  |
| Chloroethane                 | ND               |                  | 25.0  | 21.8      |           | ug/L |   | 87   | 68 - 130 |        |  |
| Chloroform                   | ND               |                  | 25.0  | 26.1      |           | ug/L |   | 104  | 70 - 130 |        |  |
| Chloromethane                | ND               |                  | 25.0  | 18.9      |           | ug/L |   | 76   | 39 - 144 |        |  |
| cis-1,2-Dichloroethene       | ND               |                  | 25.0  | 26.4      |           | ug/L |   | 105  | 70 - 130 |        |  |
| cis-1,3-Dichloropropene      | ND               |                  | 25.0  | 28.0      |           | ug/L |   | 112  | 70 - 133 |        |  |
| Dibromochloromethane         | ND               |                  | 25.0  | 27.2      |           | ug/L |   | 109  | 70 - 148 |        |  |
| Dibromomethane               | ND               |                  | 25.0  | 25.1      |           | ug/L |   | 100  | 70 - 130 |        |  |
| Dichlorodifluoromethane      | ND               |                  | 25.0  | 16.7      |           | ug/L |   | 67   | 25 - 142 |        |  |
| Ethylbenzene                 | ND               |                  | 25.0  | 24.8      |           | ug/L |   | 99   | 70 - 130 |        |  |
| Hexachlorobutadiene          | ND               |                  | 25.0  | 27.2      |           | ug/L |   | 109  | 10 - 150 |        |  |
| Isopropyl alcohol            | ND               |                  | 250   | 252       |           | ug/L |   | 101  | 46 - 142 |        |  |
| Isopropylbenzene             | ND               |                  | 25.0  | 25.7      |           | ug/L |   | 103  | 70 - 132 |        |  |
| m,p-Xylene                   | ND               |                  | 25.0  | 26.1      |           | ug/L |   | 104  | 70 - 133 |        |  |
| Methylene Chloride           | ND               |                  | 25.0  | 25.0      |           | ug/L |   | 100  | 52 - 130 |        |  |
| Methyl-t-Butyl Ether (MTBE)  | ND               |                  | 25.0  | 24.2      |           | ug/L |   | 97   | 70 - 130 |        |  |
| Naphthalene                  | ND               |                  | 25.0  | 24.8      |           | ug/L |   | 99   | 60 - 140 |        |  |
| n-Butylbenzene               | ND               |                  | 25.0  | 28.5      |           | ug/L |   | 114  | 61 - 149 |        |  |
| N-Propylbenzene              | ND               |                  | 25.0  | 26.5      |           | ug/L |   | 106  | 66 - 135 |        |  |
| o-Xylene                     | ND               |                  | 25.0  | 25.5      |           | ug/L |   | 102  | 70 - 133 |        |  |
| p-Isopropyltoluene           | ND               |                  | 25.0  | 27.7      |           | ug/L |   | 111  | 70 - 130 |        |  |
| sec-Butylbenzene             | ND               |                  | 25.0  | 26.6      |           | ug/L |   | 107  | 67 - 134 |        |  |
| Styrene                      | ND               |                  | 25.0  | 26.3      |           | ug/L |   | 105  | 29 - 150 |        |  |
| tert-Butylbenzene            | ND               |                  | 25.0  | 26.9      |           | ug/L |   | 108  | 70 - 130 |        |  |
| Tetrachloroethene            | ND               |                  | 25.0  | 26.2      |           | ug/L |   | 102  | 70 - 137 |        |  |
| Toluene                      | ND               |                  | 25.0  | 24.9      |           | ug/L |   | 100  | 70 - 130 |        |  |
| trans-1,2-Dichloroethene     | ND               |                  | 25.0  | 27.0      |           | ug/L |   | 108  | 70 - 130 |        |  |
| trans-1,3-Dichloropropene    | ND               |                  | 25.0  | 27.5      |           | ug/L |   | 110  | 70 - 138 |        |  |
| Trichloroethene              | 2.8              |                  | 25.0  | 28.1      |           | ug/L |   | 101  | 70 - 130 |        |  |
| Trichlorofluoromethane       | ND               |                  | 25.0  | 23.4      |           | ug/L |   | 94   | 60 - 150 |        |  |
| Vinyl chloride               | ND               |                  | 25.0  | 20.1      |           | ug/L |   | 80   | 50 - 137 |        |  |
| <b>MS MS</b>                 |                  |                  |       |           |           |      |   |      |          |        |  |
| <b>Surrogate</b>             | <b>%Recovery</b> | <b>Qualifier</b> |       | <b>MS</b> | <b>MS</b> |      |   |      |          |        |  |
| 1,2-Dichloroethane-d4 (Surr) | 103              |                  |       | 70 - 130  |           |      |   |      |          |        |  |
| 4-Bromofluorobenzene (Surr)  | 100              |                  |       | 80 - 120  |           |      |   |      |          |        |  |
| Dibromofluoromethane (Surr)  | 102              |                  |       | 76 - 132  |           |      |   |      |          |        |  |
| Toluene-d8 (Surr)            | 103              |                  |       | 80 - 128  |           |      |   |      |          |        |  |

**Lab Sample ID: 440-224020-A-9 MSD**

**Matrix: Water**

**Analysis Batch: 511271**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

| Analyte                   | Sample | Sample    | Spike | MSD    | MSD       | Unit | D | %Rec | %Rec.    | RPD | Limit |
|---------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
|                           | Result | Qualifier | Added | Result | Qualifier |      |   |      |          |     |       |
| 1,1,1,2-Tetrachloroethane | ND     |           | 25.0  | 27.9   |           | ug/L |   | 112  | 60 - 149 | 2   | 20    |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
 SDG: Omega Chemical- Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-224020-A-9 MSD**

**Matrix: Water**

**Analysis Batch: 511271**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

| Analyte                               | Sample | Sample    | Spike | MSD    | MSD       | Unit | D   | %Rec     | Limits | RPD | RPD | Limit |
|---------------------------------------|--------|-----------|-------|--------|-----------|------|-----|----------|--------|-----|-----|-------|
|                                       | Result | Qualifier | Added | Result | Qualifier |      |     |          |        |     |     |       |
| 1,1,1-Trichloroethane                 | ND     |           | 25.0  | 27.6   |           | ug/L | 110 | 70 - 130 | 2      | 20  |     |       |
| 1,1,2,2-Tetrachloroethane             | ND     |           | 25.0  | 24.9   |           | ug/L | 100 | 63 - 130 | 2      | 30  |     |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND     |           | 25.0  | 26.3   |           | ug/L | 101 | 60 - 140 | 2      | 20  |     |       |
| 1,1,2-Trichloroethane                 | ND     |           | 25.0  | 25.5   |           | ug/L | 102 | 70 - 130 | 2      | 25  |     |       |
| 1,1-Dichloroethane                    | ND     |           | 25.0  | 26.3   |           | ug/L | 105 | 65 - 130 | 1      | 20  |     |       |
| 1,1-Dichloroethene                    | ND     |           | 25.0  | 25.3   |           | ug/L | 101 | 70 - 130 | 0      | 20  |     |       |
| 1,1-Dichloropropene                   | ND     |           | 25.0  | 26.7   |           | ug/L | 107 | 64 - 130 | 1      | 20  |     |       |
| 1,2,3-Trichlorobenzene                | ND     |           | 25.0  | 28.3   |           | ug/L | 113 | 60 - 140 | 4      | 20  |     |       |
| 1,2,3-Trichloropropane                | ND     |           | 25.0  | 23.3   |           | ug/L | 93  | 60 - 130 | 3      | 30  |     |       |
| 1,2,4-Trichlorobenzene                | ND     |           | 25.0  | 28.4   |           | ug/L | 113 | 60 - 140 | 2      | 20  |     |       |
| 1,2,4-Trimethylbenzene                | ND     |           | 25.0  | 27.4   |           | ug/L | 109 | 70 - 130 | 3      | 25  |     |       |
| 1,2-Dibromo-3-Chloropropane           | ND     |           | 25.0  | 25.0   |           | ug/L | 100 | 48 - 140 | 4      | 30  |     |       |
| 1,2-Dibromoethane (EDB)               | ND     |           | 25.0  | 26.0   |           | ug/L | 104 | 70 - 131 | 4      | 25  |     |       |
| 1,2-Dichlorobenzene                   | ND     |           | 25.0  | 27.0   |           | ug/L | 108 | 70 - 130 | 3      | 20  |     |       |
| 1,2-Dichloroethane                    | ND     |           | 25.0  | 26.2   |           | ug/L | 105 | 56 - 146 | 2      | 20  |     |       |
| 1,2-Dichloropropane                   | ND     |           | 25.0  | 27.6   |           | ug/L | 111 | 69 - 130 | 1      | 20  |     |       |
| 1,3,5-Trimethylbenzene                | ND     |           | 25.0  | 27.5   |           | ug/L | 110 | 70 - 130 | 2      | 20  |     |       |
| 1,3-Dichlorobenzene                   | ND     |           | 25.0  | 26.2   |           | ug/L | 105 | 70 - 130 | 3      | 20  |     |       |
| 1,3-Dichloropropane                   | ND     |           | 25.0  | 25.4   |           | ug/L | 102 | 70 - 130 | 2      | 25  |     |       |
| 1,4-Dichlorobenzene                   | ND     |           | 25.0  | 25.9   |           | ug/L | 103 | 70 - 130 | 4      | 20  |     |       |
| 2,2-Dichloropropane                   | ND     |           | 25.0  | 28.8   |           | ug/L | 115 | 69 - 138 | 3      | 25  |     |       |
| 2-Chlorotoluene                       | ND     |           | 25.0  | 26.7   |           | ug/L | 107 | 70 - 130 | 2      | 20  |     |       |
| 4-Chlorotoluene                       | ND     |           | 25.0  | 27.3   |           | ug/L | 109 | 70 - 130 | 2      | 20  |     |       |
| Acetone                               | 12     |           | 25.0  | 48.9   |           | ug/L | 146 | 10 - 150 | 14     | 35  |     |       |
| Benzene                               | ND     |           | 25.0  | 25.6   |           | ug/L | 102 | 66 - 130 | 2      | 20  |     |       |
| Bromobenzene                          | ND     |           | 25.0  | 26.7   |           | ug/L | 107 | 70 - 130 | 2      | 20  |     |       |
| Bromochloromethane                    | ND     |           | 25.0  | 26.6   |           | ug/L | 106 | 70 - 130 | 2      | 25  |     |       |
| Bromodichloromethane                  | ND     |           | 25.0  | 28.3   |           | ug/L | 113 | 70 - 138 | 1      | 20  |     |       |
| Bromoform                             | ND     |           | 25.0  | 24.3   |           | ug/L | 97  | 59 - 150 | 2      | 25  |     |       |
| Bromomethane                          | ND     |           | 25.0  | 21.9   |           | ug/L | 88  | 62 - 131 | 2      | 25  |     |       |
| Carbon tetrachloride                  | ND     |           | 25.0  | 27.4   |           | ug/L | 109 | 60 - 150 | 2      | 25  |     |       |
| Chlorobenzene                         | ND     |           | 25.0  | 24.9   |           | ug/L | 100 | 70 - 130 | 3      | 20  |     |       |
| Chloroethane                          | ND     |           | 25.0  | 22.0   |           | ug/L | 88  | 68 - 130 | 1      | 25  |     |       |
| Chloroform                            | ND     |           | 25.0  | 26.3   |           | ug/L | 105 | 70 - 130 | 1      | 20  |     |       |
| Chloromethane                         | ND     |           | 25.0  | 18.6   |           | ug/L | 74  | 39 - 144 | 2      | 25  |     |       |
| cis-1,2-Dichloroethene                | ND     |           | 25.0  | 26.8   |           | ug/L | 107 | 70 - 130 | 2      | 20  |     |       |
| cis-1,3-Dichloropropene               | ND     |           | 25.0  | 28.7   |           | ug/L | 115 | 70 - 133 | 3      | 20  |     |       |
| Dibromochloromethane                  | ND     |           | 25.0  | 28.2   |           | ug/L | 113 | 70 - 148 | 4      | 25  |     |       |
| Dibromomethane                        | ND     |           | 25.0  | 25.3   |           | ug/L | 101 | 70 - 130 | 1      | 25  |     |       |
| Dichlorodifluoromethane               | ND     |           | 25.0  | 16.2   |           | ug/L | 65  | 25 - 142 | 3      | 30  |     |       |
| Ethylbenzene                          | ND     |           | 25.0  | 25.4   |           | ug/L | 101 | 70 - 130 | 2      | 20  |     |       |
| Hexachlorobutadiene                   | ND     |           | 25.0  | 27.5   |           | ug/L | 110 | 10 - 150 | 1      | 20  |     |       |
| Isopropyl alcohol                     | ND     |           | 250   | 257    |           | ug/L | 103 | 46 - 142 | 2      | 40  |     |       |
| Isopropylbenzene                      | ND     |           | 25.0  | 26.3   |           | ug/L | 105 | 70 - 132 | 2      | 20  |     |       |
| m,p-Xylene                            | ND     |           | 25.0  | 26.8   |           | ug/L | 107 | 70 - 133 | 3      | 25  |     |       |
| Methylene Chloride                    | ND     |           | 25.0  | 24.9   |           | ug/L | 100 | 52 - 130 | 1      | 20  |     |       |
| Methyl-t-Butyl Ether (MTBE)           | ND     |           | 25.0  | 25.1   |           | ug/L | 100 | 70 - 130 | 3      | 25  |     |       |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
 SDG: Omega Chemical- Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Lab Sample ID: 440-224020-A-9 MSD |               |                  |             | Client Sample ID: Matrix Spike Duplicate |               |      |     |          |        |     |       |
|-----------------------------------|---------------|------------------|-------------|--|---------------|------|-----|----------|--------|-----|-------|
| Matrix: Water                     |               |                  |             | Prep Type: Total/NA                      |               |      |     |          |        |     |       |
| Analysis Batch: 511271            |               |                  |             |  |               |      |     |          |        |     |       |
| Analyte                           | Sample Result | Sample Qualifier | Spike Added | MSD Result                               | MSD Qualifier | Unit | D   | %Rec     | Limits | RPD | Limit |
| Naphthalene                       | ND            |                  | 25.0        | 26.0                                     |               | ug/L | 104 | 60 - 140 | 4      | 30  |       |
| n-Butylbenzene                    | ND            |                  | 25.0        | 29.3                                     |               | ug/L | 117 | 61 - 149 | 2      | 20  |       |
| N-Propylbenzene                   | ND            |                  | 25.0        | 27.1                                     |               | ug/L | 108 | 66 - 135 | 2      | 20  |       |
| o-Xylene                          | ND            |                  | 25.0        | 26.0                                     |               | ug/L | 104 | 70 - 133 | 2      | 20  |       |
| p-Isopropyltoluene                | ND            |                  | 25.0        | 28.4                                     |               | ug/L | 114 | 70 - 130 | 2      | 20  |       |
| sec-Butylbenzene                  | ND            |                  | 25.0        | 27.0                                     |               | ug/L | 108 | 67 - 134 | 1      | 20  |       |
| Styrene                           | ND            |                  | 25.0        | 27.1                                     |               | ug/L | 108 | 29 - 150 | 3      | 35  |       |
| tert-Butylbenzene                 | ND            |                  | 25.0        | 27.7                                     |               | ug/L | 111 | 70 - 130 | 3      | 20  |       |
| Tetrachloroethene                 | ND            |                  | 25.0        | 26.7                                     |               | ug/L | 104 | 70 - 137 | 2      | 20  |       |
| Toluene                           | ND            |                  | 25.0        | 25.3                                     |               | ug/L | 101 | 70 - 130 | 2      | 20  |       |
| trans-1,2-Dichloroethene          | ND            |                  | 25.0        | 27.6                                     |               | ug/L | 110 | 70 - 130 | 2      | 20  |       |
| trans-1,3-Dichloropropene         | ND            |                  | 25.0        | 28.5                                     |               | ug/L | 114 | 70 - 138 | 3      | 25  |       |
| Trichloroethene                   | 2.8           |                  | 25.0        | 28.7                                     |               | ug/L | 103 | 70 - 130 | 2      | 20  |       |
| Trichlorofluoromethane            | ND            |                  | 25.0        | 23.2                                     |               | ug/L | 93  | 60 - 150 | 1      | 25  |       |
| Vinyl chloride                    | ND            |                  | 25.0        | 20.1                                     |               | ug/L | 80  | 50 - 137 | 0      | 30  |       |
| Surrogate                         | MSD %Recovery | MSD Qualifier    | MSD Limits  |  |               |      |     |          |        |     |       |
| 1,2-Dichloroethane-d4 (Surr)      | 103           |                  | 70 - 130    |  |               |      |     |          |        |     |       |
| 4-Bromofluorobenzene (Surr)       | 102           |                  | 80 - 120    |  |               |      |     |          |        |     |       |
| Dibromofluoromethane (Surr)       | 102           |                  | 76 - 132    |  |               |      |     |          |        |     |       |
| Toluene-d8 (Surr)                 | 104           |                  | 80 - 128    |  |               |      |     |          |        |     |       |

## Method: 8270C SIM - 1,4 Dioxane by SIM

| Lab Sample ID: MB 440-511375/1-A |              |              |           | Client Sample ID: Method Blank |      |   |                |                |         |  |  |
|----------------------------------|--------------|--------------|-----------|--------------------------------|------|---|----------------|----------------|---------|--|--|
| Matrix: Water                    |              |              |           | Prep Type: Total/NA            |      |   |                |                |         |  |  |
| Analysis Batch: 511746           |              |              |           | Prep Batch: 511375             |      |   |                |                |         |  |  |
| Analyte                          | MB Result    | MB Qualifier | RL        |                                | Unit | D | Prepared       | Analyzed       | Dil Fac |  |  |
| 1,4-Dioxane                      | ND           |              | 0.50      |                                | ug/L | 1 | 11/15/18 08:14 | 11/16/18 15:55 |         |  |  |
| Surrogate                        | MB %Recovery | MB Qualifier | MB Limits |                                |      |   | Prepared       | Analyzed       | Dil Fac |  |  |
| 1,4-Dioxane-d8 (Surr)            | 51           |              | 27 - 120  |                                |      |   | 11/15/18 08:14 | 11/16/18 15:55 |         |  |  |

| Lab Sample ID: LCS 440-511375/3-A |               |               |            | Client Sample ID: Lab Control Sample |      |    |      |          |  |  |  |
|-----------------------------------|---------------|---------------|------------|--------------------------------------|------|----|------|----------|--|--|--|
| Matrix: Water                     |               |               |            | Prep Type: Total/NA                  |      |    |      |          |  |  |  |
| Analysis Batch: 511746            |               |               |            | Prep Batch: 511375                   |      |    |      |          |  |  |  |
| Analyte                           | Spike Result  | Spike Added   | LCS Result | LCS Qualifier                        | Unit | D  | %Rec | Limits   |  |  |  |
| 1,4-Dioxane                       |               | 1.99          | 1.26       |                                      | ug/L | 63 | 63   | 36 - 120 |  |  |  |
| Surrogate                         | LCS %Recovery | LCS Qualifier | LCS Limits |                                      |      |    |      |          |  |  |  |
| 1,4-Dioxane-d8 (Surr)             | 57            |               | 27 - 120   |                                      |      |    |      |          |  |  |  |

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
SDG: Omega Chemical- Whittier

## Method: 8270C SIM - 1,4 Dioxane by SIM (Continued)

Lab Sample ID: LCSD 440-511375/4-A

Matrix: Water

Analysis Batch: 511746

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 511375

| Analyte               | Spike Added    | LCSD Result    | LCSD Qualifier | Unit | D | %Rec. | RPD      | Limit |
|-----------------------|----------------|----------------|----------------|------|---|-------|----------|-------|
| 1,4-Dioxane           | 1.99           | 1.16           |                | ug/L |   | 58    | 36 - 120 | 9     |
| Surrogate             | LCSD %Recovery | LCSD Qualifier | Limits         |      |   |       |          |       |
| 1,4-Dioxane-d8 (Surr) | 52             |                | 27 - 120       |      |   |       |          |       |

# QC Association Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
SDG: Omega Chemical- Whittier

## GC/MS VOA

### Analysis Batch: 511271

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 440-224055-1        | OC_SP220B_EFF_110918   | Total/NA  | Water  | 8260B  | 5          |
| 440-224055-2        | OC_SP210_INF_110918    | Total/NA  | Water  | 8260B  | 6          |
| 440-224055-2 - DL   | OC_SP210_INF_110918    | Total/NA  | Water  | 8260B  | 7          |
| 440-224055-3        | OC_TB_110918           | Total/NA  | Water  | 8260B  | 8          |
| MB 440-511271/5     | Method Blank           | Total/NA  | Water  | 8260B  | 9          |
| LCS 440-511271/1003 | Lab Control Sample     | Total/NA  | Water  | 8260B  | 10         |
| LCS 440-511271/6    | Lab Control Sample     | Total/NA  | Water  | 8260B  | 11         |
| 440-224020-A-9 MS   | Matrix Spike           | Total/NA  | Water  | 8260B  | 12         |
| 440-224020-A-9 MSD  | Matrix Spike Duplicate | Total/NA  | Water  | 8260B  | 13         |

## GC/MS Semi VOA

### Prep Batch: 511375

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 440-224055-1        | OC_SP220B_EFF_110918   | Total/NA  | Water  | 3520C  | 11         |
| MB 440-511375/1-A   | Method Blank           | Total/NA  | Water  | 3520C  | 12         |
| LCS 440-511375/3-A  | Lab Control Sample     | Total/NA  | Water  | 3520C  | 13         |
| LCSD 440-511375/4-A | Lab Control Sample Dup | Total/NA  | Water  | 3520C  | 14         |

### Analysis Batch: 511746

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method    | Prep Batch |
|---------------------|------------------------|-----------|--------|-----------|------------|
| 440-224055-1        | OC_SP220B_EFF_110918   | Total/NA  | Water  | 8270C SIM | 511375     |
| MB 440-511375/1-A   | Method Blank           | Total/NA  | Water  | 8270C SIM | 511375     |
| LCS 440-511375/3-A  | Lab Control Sample     | Total/NA  | Water  | 8270C SIM | 511375     |
| LCSD 440-511375/4-A | Lab Control Sample Dup | Total/NA  | Water  | 8270C SIM | 511375     |

# Definitions/Glossary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
SDG: Omega Chemical- Whittier

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description  |
|-----------|--|
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

## Glossary

### Abbreviation **These commonly used abbreviations may or may not be present in this report.**

|                |   |
|----------------|---|
| □              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

## Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-224055-1  
SDG: Omega Chemical- Whittier

### Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| California | State Program | 9          | CA ELAP 2706          | 06-30-19        |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte                               |
|-----------------|-------------|--------|---------------------------------------|
| 8260B           |             | Water  | 1,1,2-Trichloro-1,2,2-trifluoroethane |
| 8260B           |             | Water  | m,p-Xylene                            |
| 8270C SIM       | 3520C       | Water  | 1,4-Dioxane                           |

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**TestAmerica Irvine**  
17461 Denan Ave  
Suite 100  
Irvine, CA 92614  
phone 949 281 1022 fax

## **Chain of Custody Record**

TestAmerica

**THE LEADER IN ENVIRONMENTAL TESTING**

**Regulatory Program:**  DW  NPDES  RCRA  Other:

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11/19/2018

## Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-224055-1

SDG Number: Omega Chemical- Whittier

**Login Number:** 224055

**List Source:** TestAmerica Irvine

**List Number:** 1

**Creator:** Soderblom, Tim

| Question   | Answer | Comment                             |    |
|--|--------|-------------------------------------|----|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | True   |                                     | 6  |
| The cooler's custody seal, if present, is intact.                                | N/A    | Not present                         | 7  |
| Sample custody seals, if present, are intact.                                    | N/A    | Not Present                         | 8  |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |                                     | 9  |
| Samples were received on ice.  | True   |                                     | 10 |
| Cooler Temperature is acceptable.  | True   |                                     | 11 |
| Cooler Temperature is recorded.  | True   |                                     | 12 |
| COC is present.  | True   |                                     | 13 |
| COC is filled out in ink and legible.  | True   |                                     | 14 |
| COC is filled out with all pertinent information.                                | True   |                                     | 15 |
| Is the Field Sampler's name present on COC?                                      | False  | Refer to Job Narrative for details. |    |
| There are no discrepancies between the containers received and the COC.          | True   |                                     |    |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |                                     |    |
| Sample containers have legible labels.   | True   |                                     |    |
| Containers are not broken or leaking.  | True   |                                     |    |
| Sample collection date/times are provided.                                       | True   |                                     |    |
| Appropriate sample containers are used.  | True   |                                     |    |
| Sample bottles are completely filled.  | True   |                                     |    |
| Sample Preservation Verified.  | N/A    |                                     |    |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |                                     |    |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | True   |                                     |    |
| Multiphasic samples are not present.   | True   |                                     |    |
| Samples do not require splitting or compositing.                                 | True   |                                     |    |
| Residual Chlorine Checked.   | N/A    |                                     |    |

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

[TestAmerica Job ID: 440-224565-1](#)

TestAmerica Sample Delivery Group: Whittier

Client Project/Site: Omega Chemical Wastewater

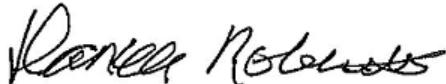
For:

Jacob & Hefner Associates P.C.

15375 Barranca Parkway, J-101

Irvine, California 92618

Attn: Trent Henderson



Authorized for release by:

11/29/2018 4:12:16 PM

Danielle Roberts, Senior Project Manager

(949)261-1022

[danielle.roberts@testamericainc.com](mailto:danielle.roberts@testamericainc.com)

### LINKS

Review your project  
results through

**Total Access**

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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## Sample Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 440-224565-1  | Composite        | Water  | 11/16/18 08:30 | 11/16/18 11:45 |
| 440-224565-2  | Grab             | Water  | 11/16/18 08:40 | 11/16/18 11:45 |

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TestAmerica Irvine

# Case Narrative

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Job ID: 440-224565-1

### Laboratory: TestAmerica Irvine

#### Narrative

#### Job Narrative 440-224565-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/16/2018 11:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.4° C.

#### GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270C: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 440-512081 and analytical batch 440-512621 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine, 4-Chloroaniline and 3-Nitroaniline.

Method(s) 8270C: The percent recovery in the laboratory control sample (LCS) is below acceptance limits for 3,3'-Dichlorobenzidine and 4-Chloroaniline. These compounds are poor performers and yields erratic recoveries. The results are reported as possible biased low.

(LCS 440-512081/2-A)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Field Service / Mobile Lab

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### General Chemistry

Method(s) SM 4500 S2 D: The matrix spike duplicate (MSD) recoveries for preparation batch 440-512770 and analytical batch 440-512779 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 S2 D: Reanalysis of the following samples were performed outside of the analytical holding time due to sample's initial result was out of historical data Grab (440-224565-2) and (440-224565-J-2-B DU).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

Method(s) 3520C, 8270: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 3520C\_8270C preparation batch 440-512081.

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 3520C\_8270C-1,4-DXNpreparation batch 440-512451.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Detection Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

### Client Sample ID: Composite

### Lab Sample ID: 440-224565-1

| Analyte                | Result | Qualifier | RL | Unit | Dil Fac | D | Method   | Prep Type |
|------------------------|--------|-----------|----|------|---------|---|----------|-----------|
| Chemical Oxygen Demand | 98     |           | 20 | mg/L | 1       |   | SM 5220D | Total/NA  |

### Client Sample ID: Grab

### Lab Sample ID: 440-224565-2

| Analyte           | Result | Qualifier | RL   | Unit    | Dil Fac | D | Method         | Prep Type |
|-------------------|--------|-----------|------|---------|---------|---|----------------|-----------|
| Acetone - RA      | 50     |           | 10   | ug/L    | 1       |   | 8260B          | Total/NA  |
| 1,4-Dioxane       | 11     |           | 0.49 | ug/L    | 1       |   | 8270C SIM      | Total/NA  |
| pH                | 8.5    | HF        | 0.1  | SU      | 1       |   | SM 4500 H+ B   | Total/NA  |
| Field pH          | 8.51   |           |      | SU      | 1       |   | Field Sampling | Total/NA  |
| Field Temperature | 11.5   |           |      | Celsius | 1       |   | Field Sampling | Total/NA  |

This Detection Summary does not include radiochemical test results.

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Client Sample ID: Composite

Date Collected: 11/16/18 08:30  
Date Received: 11/16/18 11:45

## Lab Sample ID: 440-224565-1

Matrix: Water

### General Chemistry

| Analyte                | Result | Qualifier | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------|--------|-----------|-----|------|---|----------|----------------|---------|
| Total Suspended Solids | ND     |           | 1.0 | mg/L |   |          | 11/21/18 21:42 | 1       |
| Chemical Oxygen Demand | 98     |           | 20  | mg/L |   |          | 11/26/18 15:14 | 1       |

## Client Sample ID: Grab

Date Collected: 11/16/18 08:40  
Date Received: 11/16/18 11:45

## Lab Sample ID: 440-224565-2

Matrix: Water

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte                               | Result | Qualifier | RL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|--------|-----------|------|------|---|----------|----------------|---------|
| 1,1,1,2-Tetrachloroethane             | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,1,1-Trichloroethane                 | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 2-Chloroethyl vinyl ether             | ND     |           | 2.0  | ug/L |   |          | 11/19/18 23:32 | 1       |
| 1,1,2,2-Tetrachloroethane             | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND     |           | 5.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Acrolein                              | ND     |           | 5.0  | ug/L |   |          | 11/19/18 23:32 | 1       |
| 1,1,2-Trichloroethane                 | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Acrylonitrile                         | ND     |           | 2.0  | ug/L |   |          | 11/19/18 23:32 | 1       |
| 1,1-Dichloroethane                    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,1-Dichloroethene                    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,1-Dichloropropene                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Total Volatile Organic Compounds      | ND     |           | 150  | ug/L |   |          | 11/19/18 23:32 | 1       |
| 1,2,3-Trichlorobenzene                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,2,3-Trichloropropane                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,2,4-Trichlorobenzene                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,2,4-Trimethylbenzene                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,2-Dibromo-3-Chloropropane           | ND     |           | 5.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,2-Dibromoethane (EDB)               | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,2-Dichlorobenzene                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,2-Dichloroethane                    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,2-Dichloropropane                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,3,5-Trimethylbenzene                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,3-Dichlorobenzene                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,3-Dichloropropane                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,4-Dichlorobenzene                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 2,2-Dichloropropane                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 2-Chlorotoluene                       | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 4-Chlorotoluene                       | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Benzene                               | ND     |           | 0.50 | ug/L |   |          | 11/24/18 19:38 | 1       |
| Bromobenzene                          | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Bromochloromethane                    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Bromodichloromethane                  | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Bromoform                             | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Bromomethane                          | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Carbon tetrachloride                  | ND     |           | 0.50 | ug/L |   |          | 11/24/18 19:38 | 1       |
| Chlorobenzene                         | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Chloroethane                          | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Chloroform                            | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Chloromethane                         | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| cis-1,2-Dichloroethene                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

## Client Sample ID: Grab

Date Collected: 11/16/18 08:40  
 Date Received: 11/16/18 11:45

## Lab Sample ID: 440-224565-2

Matrix: Water

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                     | Result | Qualifier | RL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|------|------|---|----------|----------------|---------|
| cis-1,3-Dichloropropene     | ND     |           | 0.50 | ug/L |   |          | 11/24/18 19:38 | 1       |
| Dibromochloromethane        | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Dibromomethane              | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Dichlorodifluoromethane     | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Ethylbenzene                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Hexachlorobutadiene         | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Isopropyl alcohol           | ND     |           | 250  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Isopropylbenzene            | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| m,p-Xylene                  | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Methylene Chloride          | ND     |           | 5.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Methyl-t-Butyl Ether (MTBE) | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Naphthalene                 | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| n-Butylbenzene              | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| N-Propylbenzene             | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| o-Xylene                    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| p-Isopropyltoluene          | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| sec-Butylbenzene            | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Styrene                     | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| tert-Butylbenzene           | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Tetrachloroethene           | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Toluene                     | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| trans-1,2-Dichloroethene    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| trans-1,3-Dichloropropene   | ND     |           | 0.50 | ug/L |   |          | 11/24/18 19:38 | 1       |
| Trichloroethene             | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Trichlorofluoromethane      | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Vinyl chloride              | ND     |           | 0.50 | ug/L |   |          | 11/24/18 19:38 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 99        |           | 70 - 130 |          | 11/19/18 23:32 | 1       |
| 4-Bromofluorobenzene (Surr)  | 97        |           | 80 - 120 |          | 11/19/18 23:32 | 1       |
| Dibromofluoromethane (Surr)  | 103       |           | 76 - 132 |          | 11/19/18 23:32 | 1       |
| Toluene-d8 (Surr)            | 101       |           | 80 - 128 |          | 11/19/18 23:32 | 1       |
| 1,2-Dichloroethane-d4 (Surr) | 101       |           | 70 - 130 |          | 11/24/18 19:38 | 1       |
| 4-Bromofluorobenzene (Surr)  | 100       |           | 80 - 120 |          | 11/24/18 19:38 | 1       |
| Dibromofluoromethane (Surr)  | 102       |           | 76 - 132 |          | 11/24/18 19:38 | 1       |
| Toluene-d8 (Surr)            | 107       |           | 80 - 128 |          | 11/24/18 19:38 | 1       |

### Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------|--------|-----------|----|------|---|----------|----------------|---------|
| Acetone | 50     |           | 10 | ug/L |   |          | 11/26/18 11:31 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 126       |           | 70 - 130 |          | 11/26/18 11:31 | 1       |
| 4-Bromofluorobenzene (Surr)  | 89        |           | 80 - 120 |          | 11/26/18 11:31 | 1       |
| Dibromofluoromethane (Surr)  | 117       |           | 76 - 132 |          | 11/26/18 11:31 | 1       |
| Toluene-d8 (Surr)            | 100       |           | 80 - 128 |          | 11/26/18 11:31 | 1       |

### Method: 8270C SIM - 1,4 Dioxane by SIM

| Analyte     | Result | Qualifier | RL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-------------|--------|-----------|------|------|---|----------------|----------------|---------|
| 1,4-Dioxane | 11     |           | 0.49 | ug/L |   | 11/20/18 12:23 | 11/21/18 15:50 | 1       |

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

## Client Sample ID: Grab

Date Collected: 11/16/18 08:40  
 Date Received: 11/16/18 11:45

## Lab Sample ID: 440-224565-2

Matrix: Water

| Surrogate             | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------|-----------|-----------|----------|----------------|----------------|---------|
| 1,4-Dioxane-d8 (Surr) | 55        |           | 27 - 120 | 11/20/18 12:23 | 11/21/18 15:50 | 1       |

### Method: 8270C - Semivolatile Organic Compounds (GC/MS)

| Analyte                              | Result | Qualifier | RL  | Unit | D              | Prepared       | Analyzed | Dil Fac |
|--------------------------------------|--------|-----------|-----|------|----------------|----------------|----------|---------|
| 1,2,4-Trichlorobenzene               | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 1,2-Dichlorobenzene                  | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 1,2-Diphenylhydrazine(as Azobenzene) | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 1,3-Dichlorobenzene                  | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 1,4-Dichlorobenzene                  | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2,4,5-Trichlorophenol                | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2,4,6-Trichlorophenol                | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2,4-Dichlorophenol                   | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2,4-Dimethylphenol                   | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2,4-Dinitrophenol                    | ND     |           | 40  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2,4-Dinitrotoluene                   | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2,6-Dinitrotoluene                   | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2-Chloronaphthalene                  | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2-Chlorophenol                       | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2-Methylnaphthalene                  | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2-Methylphenol                       | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2-Nitroaniline                       | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2-Nitrophenol                        | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 3,3'-Dichlorobenzidine               | ND *   |           | 40  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 3-Methylphenol + 4-Methylphenol      | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 3-Nitroaniline                       | ND *   |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 4,6-Dinitro-2-methylphenol           | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 4-Bromophenyl phenyl ether           | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 4-Chloro-3-methylphenol              | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 4-Chloroaniline                      | ND *   |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 4-Chlorophenyl phenyl ether          | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 4-Nitroaniline                       | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 4-Nitrophenol                        | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Acenaphthene                         | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Acenaphthylene                       | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Aniline                              | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Anthracene                           | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Benzidine                            | ND     |           | 40  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Benzo[a]anthracene                   | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Benzo[a]pyrene                       | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Benzo[b]fluoranthene                 | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Benzo[g,h,i]perylene                 | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Benzo[k]fluoranthene                 | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Benzoic acid                         | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Benzyl alcohol                       | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| bis (2-chloroisopropyl) ether        | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Bis(2-chloroethoxy)methane           | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Bis(2-chloroethyl)ether              | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Bis(2-ethylhexyl) phthalate          | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Butyl benzyl phthalate               | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

## Client Sample ID: Grab

Date Collected: 11/16/18 08:40  
 Date Received: 11/16/18 11:45

## Lab Sample ID: 440-224565-2

Matrix: Water

### Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

| Analyte                   | Result | Qualifier | RL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------------------------|--------|-----------|-----|------|---|----------------|----------------|---------|
| Chrysene                  | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Dibenz(a,h)anthracene     | ND     |           | 20  | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Dibenzofuran              | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Diethyl phthalate         | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Dimethyl phthalate        | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Di-n-butyl phthalate      | ND     |           | 20  | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Di-n-octyl phthalate      | ND     |           | 20  | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Fluoranthene              | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Fluorene                  | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Hexachlorobenzene         | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Hexachlorobutadiene       | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Hexachlorocyclopentadiene | ND     |           | 20  | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Hexachloroethane          | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Indeno[1,2,3-cd]pyrene    | ND     |           | 20  | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Isophorone                | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Naphthalene               | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Nitrobenzene              | ND     |           | 20  | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| N-Nitrosodimethylamine    | ND     |           | 20  | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| N-Nitrosodi-n-propylamine | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| N-Nitrosodiphenylamine    | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Pentachlorophenol         | ND     |           | 20  | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Phenanthrene              | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Phenol                    | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Pyrene                    | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 2,4,6-Tribromophenol (Surr) | 96        |           | 40 - 120 | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| 2-Fluorobiphenyl            | 81        |           | 50 - 120 | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| 2-Fluorophenol (Surr)       | 62        |           | 30 - 120 | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Nitrobenzene-d5 (Surr)      | 78        |           | 45 - 120 | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Phenol-d6 (Surr)            | 49        |           | 35 - 120 | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Terphenyl-d14 (Surr)        | 104       |           | 10 - 150 | 11/19/18 09:41 | 11/21/18 17:37 | 1       |

### General Chemistry

| Analyte | Result | Qualifier | RL  | Unit | D | Prepared       | Analyzed | Dil Fac |
|---------|--------|-----------|-----|------|---|----------------|----------|---------|
| pH      | 8.5    | HF        | 0.1 | SU   |   | 11/19/18 17:35 |          | 1       |

### General Chemistry - Dissolved

| Analyte            | Result | Qualifier | RL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------------|--------|-----------|-------|------|---|----------------|----------------|---------|
| Sulfide, Dissolved | ND     | H HF      | 0.050 | mg/L |   | 11/26/18 16:42 | 11/26/18 17:35 | 1       |

### Method: Field Sampling - Field Sampling

| Analyte           | Result | Qualifier | RL | Unit    | D | Prepared       | Analyzed | Dil Fac |
|-------------------|--------|-----------|----|---------|---|----------------|----------|---------|
| Field pH          | 8.51   |           |    | SU      |   | 11/16/18 08:40 |          | 1       |
| Field Temperature | 11.5   |           |    | Celsius |   | 11/16/18 08:40 |          | 1       |

# Surrogate Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID       | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                 |                  |                 |
|---------------------|------------------------|--|-----------------|------------------|-----------------|
|                     |                        | DCA<br>(70-130)                                | BFB<br>(80-120) | DBFM<br>(76-132) | TOL<br>(80-128) |
| 440-224495-A-13 MS  | Matrix Spike           | 143 X  | 86              | 123              | 95              |
| 440-224495-A-13 MSD | Matrix Spike Duplicate | 127  | 87              | 123              | 95              |
| 440-224522-A-4 MS   | Matrix Spike           | 102  | 99              | 102              | 99              |
| 440-224522-A-4 MSD  | Matrix Spike Duplicate | 101  | 106             | 99               | 99              |
| 440-224565-2        | Grab                   | 99   | 97              | 103              | 101             |
| 440-224565-2        | Grab                   | 101  | 100             | 102              | 107             |
| 440-224565-2 - RA   | Grab                   | 126  | 89              | 117              | 100             |
| 440-224675-D-2 MS   | Matrix Spike           | 100  | 101             | 98               | 96              |
| 440-224675-D-2 MSD  | Matrix Spike Duplicate | 98   | 100             | 99               | 99              |
| LCS 440-512264/5    | Lab Control Sample     | 103  | 103             | 98               | 96              |
| LCS 440-512972/5    | Lab Control Sample     | 98   | 100             | 99               | 99              |
| LCS 440-513044/5    | Lab Control Sample     | 124  | 93              | 118              | 96              |
| MB 440-512264/7     | Method Blank           | 100  | 99              | 104              | 101             |
| MB 440-512972/4     | Method Blank           | 98   | 98              | 98               | 101             |
| MB 440-513044/4     | Method Blank           | 123  | 93              | 118              | 99              |

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID       | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                 |                 |                 |                  |                  |
|---------------------|------------------------|--|-----------------|-----------------|-----------------|------------------|------------------|
|                     |                        | TBP<br>(40-120)                                | FBP<br>(50-120) | 2FP<br>(30-120) | NBZ<br>(45-120) | PHL6<br>(35-120) | TPHL<br>(10-150) |
| 440-224565-2        | Grab                   | 96   | 81              | 62              | 78              | 49               | 104              |
| LCS 440-512081/2-A  | Lab Control Sample     | 102  | 90              | 56              | 79              | 70               | 104              |
| LCSD 440-512081/3-A | Lab Control Sample Dup | 102  | 91              | 52              | 77              | 68               | 104              |
| MB 440-512081/1-A   | Method Blank           | 86   | 77              | 65              | 72              | 71               | 105              |

### Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)

FBP = 2-Fluorobiphenyl

2FP = 2-Fluorophenol (Surr)

NBZ = Nitrobenzene-d5 (Surr)

PHL6 = Phenol-d6 (Surr)

TPHL = Terphenyl-d14 (Surr)

## Method: 8270C SIM - 1,4 Dioxane by SIM

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID       | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |  |  |  |
|---------------------|------------------------|--|--|--|--|
|                     |                        | DXE<br>(27-120)                                |  |  |  |
| 440-224565-2        | Grab                   | 55   |  |  |  |
| LCS 440-512451/2-A  | Lab Control Sample     | 57   |  |  |  |
| LCSD 440-512451/3-A | Lab Control Sample Dup | 55   |  |  |  |

TestAmerica Irvine

## **Surrogate Summary**

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## **Method: 8270C SIM - 1,4 Dioxane by SIM (Continued)**

## Matrix: Water

### **Prep Type: Total/NA**

|                   |                  | Percent Surrogate Recovery (Acceptance Limits) |    |  |  |  |
|-------------------|------------------|--|----|--|--|--|
| Lab Sample ID     | Client Sample ID | DXE<br>(27-120)                                | 58 |  |  |  |
| MB 440-512451/1-A | Method Blank     |  |    |  |  |  |

## Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

## Method Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

| Method         | Method Description                           | Protocol | Laboratory |
|----------------|--|----------|------------|
| 8260B          | Volatile Organic Compounds (GC/MS)           | SW846    | TAL IRV    |
| 8270C          | Semivolatile Organic Compounds (GC/MS)       | SW846    | TAL IRV    |
| 8270C SIM      | 1,4 Dioxane by SIM                           | SW846    | TAL IRV    |
| SM 2540D       | Solids, Total Suspended (TSS)                | SM       | TAL IRV    |
| SM 4500 H+ B   | pH   | SM       | TAL IRV    |
| SM 4500 S2 D   | Sulfide, Total                               | SM       | TAL IRV    |
| SM 5220D       | COD  | SM       | TAL IRV    |
| Field Sampling | Field Sampling                               | EPA      | TAL IRV    |
| 3520C          | Liquid-Liquid Extraction (Continuous)        | SW846    | TAL IRV    |
| 5030B          | Purge and Trap                               | SW846    | TAL IRV    |
| SM 4500 S2 B   | Sulfide, Separation of Soluble and Insoluble | SM       | TAL IRV    |

### Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

# Lab Chronicle

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

## Client Sample ID: Composite

Date Collected: 11/16/18 08:30

Date Received: 11/16/18 11:45

## Lab Sample ID: 440-224565-1

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | SM 2540D     |     | 1          | 1000 mL        | 1000 mL      | 512804       | 11/21/18 21:42       | KM      | TAL IRV |
| Total/NA  | Analysis   | SM 5220D     |     | 1          | 2.5 mL         | 2.5 mL       | 513169       | 11/26/18 15:14       | KYP     | TAL IRV |

## Client Sample ID: Grab

Date Collected: 11/16/18 08:40

Date Received: 11/16/18 11:45

## Lab Sample ID: 440-224565-2

Matrix: Water

| Prep Type | Batch Type | Batch Method   | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|----------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260B          |     | 1          | 10 mL          | 10 mL        | 512264       | 11/19/18 23:32       | OH1     | TAL IRV |
| Total/NA  | Analysis   | 8260B          |     | 1          | 10 mL          | 10 mL        | 512972       | 11/24/18 19:38       | AYL     | TAL IRV |
| Total/NA  | Analysis   | 8260B          | RA  | 1          | 10 mL          | 10 mL        | 513044       | 11/26/18 11:31       | TCN     | TAL IRV |
| Total/NA  | Prep       | 3520C          |     |            | 1010 mL        | 2.0 mL       | 512081       | 11/19/18 09:41       | JAA     | TAL IRV |
| Total/NA  | Analysis   | 8270C          |     | 1          |                |              | 512621       | 11/21/18 17:37       | HN      | TAL IRV |
| Total/NA  | Prep       | 3520C          |     |            | 1025 mL        | 1.0 mL       | 512451       | 11/20/18 12:23       | JAA     | TAL IRV |
| Total/NA  | Analysis   | 8270C SIM      |     | 1          |                |              | 512653       | 11/21/18 15:50       | L1B     | TAL IRV |
| Total/NA  | Analysis   | SM 4500 H+ B   |     | 1          |                |              | 512170       | 11/19/18 17:35       | CMM     | TAL IRV |
| Dissolved | Prep       | SM 4500 S2 B   |     |            | 7.5 mL         | 7.5 mL       | 513192       | 11/26/18 16:42       | KMY     | TAL IRV |
| Dissolved | Analysis   | SM 4500 S2 D   |     | 1          | 7.5 mL         | 7.5 mL       | 513202       | 11/26/18 17:35       | KMY     | TAL IRV |
| Total/NA  | Analysis   | Field Sampling |     | 1          |                |              | 511999       | 11/16/18 08:40       | P1P     | TAL IRV |

### Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID:** MB 440-512264/7

**Matrix:** Water

**Analysis Batch:** 512264

| Analyte                          | MB<br>Result | MB<br>Qualifier | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------------------------------|--------------|-----------------|-----|------|---|----------|----------------|---------|
| 2-Chloroethyl vinyl ether        | ND           |                 | 2.0 | ug/L |   |          | 11/19/18 23:07 | 1       |
| Acrolein                         | ND           |                 | 5.0 | ug/L |   |          | 11/19/18 23:07 | 1       |
| Acrylonitrile                    | ND           |                 | 2.0 | ug/L |   |          | 11/19/18 23:07 | 1       |
| Total Volatile Organic Compounds | ND           |                 | 150 | ug/L |   |          | 11/19/18 23:07 | 1       |

| Surrogate                    | %Recovery | MB<br>Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 100       |                 | 70 - 130 |          | 11/19/18 23:07 | 1       |
| 4-Bromofluorobenzene (Surr)  | 99        |                 | 80 - 120 |          | 11/19/18 23:07 | 1       |
| Dibromofluoromethane (Surr)  | 104       |                 | 76 - 132 |          | 11/19/18 23:07 | 1       |
| Toluene-d8 (Surr)            | 101       |                 | 80 - 128 |          | 11/19/18 23:07 | 1       |

**Lab Sample ID:** LCS 440-512264/5

**Matrix:** Water

**Analysis Batch:** 512264

| Analyte                          | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec.    |
|----------------------------------|----------------|---------------|------------------|------|---|------|----------|
| 2-Chloroethyl vinyl ether        | 25.0           | 28.0          |                  | ug/L |   | 112  | 37 - 150 |
| Acrolein                         | 25.0           | 26.1          |                  | ug/L |   | 104  | 10 - 145 |
| Acrylonitrile                    | 250            | 290           |                  | ug/L |   | 116  | 48 - 140 |
| Total Volatile Organic Compounds | 4730           | 5130          |                  | ug/L |   | 109  | 60 - 140 |

| Surrogate                    | %Recovery | LCS<br>Qualifier | Limits   |
|------------------------------|-----------|------------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 103       |                  | 70 - 130 |
| 4-Bromofluorobenzene (Surr)  | 103       |                  | 80 - 120 |
| Dibromofluoromethane (Surr)  | 98        |                  | 76 - 132 |
| Toluene-d8 (Surr)            | 96        |                  | 80 - 128 |

**Lab Sample ID:** 440-224675-D-2 MS

**Matrix:** Water

**Analysis Batch:** 512264

| Analyte                          | Sample<br>Result | Sample<br>Qualifier | Spike<br>Added | MS<br>Result | MS<br>Qualifier | Unit | D | %Rec | %Rec.    |
|----------------------------------|------------------|---------------------|----------------|--------------|-----------------|------|---|------|----------|
| 2-Chloroethyl vinyl ether        | ND               |                     | 500            | 473          |                 | ug/L |   | 95   | 10 - 140 |
| Acrolein                         | ND               |                     | 500            | 246          |                 | ug/L |   | 49   | 10 - 147 |
| Acrylonitrile                    | ND               |                     | 5000           | 2780         |                 | ug/L |   | 56   | 38 - 144 |
| Total Volatile Organic Compounds | ND               |                     | 94500          | 93100        |                 | ug/L |   | 96   |          |

| Surrogate                    | %Recovery | MS<br>Qualifier | Limits   |
|------------------------------|-----------|-----------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 100       |                 | 70 - 130 |
| 4-Bromofluorobenzene (Surr)  | 101       |                 | 80 - 120 |
| Dibromofluoromethane (Surr)  | 98        |                 | 76 - 132 |
| Toluene-d8 (Surr)            | 96        |                 | 80 - 128 |

**Client Sample ID:** Lab Control Sample

**Prep Type:** Total/NA

**Client Sample ID:** Matrix Spike

**Prep Type:** Total/NA

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-224675-D-2 MSD**

**Matrix: Water**

**Analysis Batch: 512264**

| Analyte                          | Sample | Sample    | Spike | MSD    | MSD       | Unit | D | %Rec. | %Rec. Limits | RPD | RPD Limit |
|----------------------------------|--------|-----------|-------|--------|-----------|------|---|-------|--------------|-----|-----------|
|                                  | Result | Qualifier | Added | Result | Qualifier |      |   |       |              |     |           |
| 2-Chloroethyl vinyl ether        | ND     |           | 500   | 433    |           | ug/L |   | 87    | 10 - 140     | 9   | 35        |
| Acrolein                         | ND     |           | 500   | 299    |           | ug/L |   | 60    | 10 - 147     | 20  | 40        |
| Acrylonitrile                    | ND     |           | 5000  | 3170   |           | ug/L |   | 63    | 38 - 144     | 13  | 40        |
| Total Volatile Organic Compounds | ND     |           | 94500 | 93200  |           | ug/L |   | 96    |              | 0   | 30        |

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

| Surrogate                    | MSD       | MSD       | Limits   |
|------------------------------|-----------|-----------|----------|
|                              | %Recovery | Qualifier |          |
| 1,2-Dichloroethane-d4 (Surr) | 98        |           | 70 - 130 |
| 4-Bromofluorobenzene (Surr)  | 100       |           | 80 - 120 |
| Dibromofluoromethane (Surr)  | 99        |           | 76 - 132 |
| Toluene-d8 (Surr)            | 99        |           | 80 - 128 |

**Lab Sample ID: MB 440-512972/4**

**Matrix: Water**

**Analysis Batch: 512972**

| Analyte                               | MB     | MB        | RL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|--------|-----------|------|------|---|----------|----------------|---------|
|                                       | Result | Qualifier |      |      |   |          |                |         |
| 1,1,1,2-Tetrachloroethane             | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,1,1-Trichloroethane                 | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,1,2,2-Tetrachloroethane             | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND     |           | 5.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,1,2-Trichloroethane                 | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,1-Dichloroethane                    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,1-Dichloroethene                    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,1-Dichloropropene                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,2,3-Trichlorobenzene                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,2,3-Trichloropropane                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,2,4-Trichlorobenzene                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,2,4-Trimethylbenzene                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,2-Dibromo-3-Chloropropane           | ND     |           | 5.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,2-Dibromoethane (EDB)               | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,2-Dichlorobenzene                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,2-Dichloroethane                    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,2-Dichloropropane                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,3,5-Trimethylbenzene                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,3-Dichlorobenzene                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,3-Dichloropropane                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,4-Dichlorobenzene                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 2,2-Dichloropropane                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 2-Chlorotoluene                       | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 4-Chlorotoluene                       | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Acetone                               | ND     |           | 10   | ug/L |   |          | 11/24/18 11:06 | 1       |
| Benzene                               | ND     |           | 0.50 | ug/L |   |          | 11/24/18 11:06 | 1       |
| Bromobenzene                          | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Bromochloromethane                    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Bromodichloromethane                  | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Bromoform                             | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Bromomethane                          | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 440-512972/4**

**Matrix: Water**

**Analysis Batch: 512972**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

| Analyte                     | MB     |           | RL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|------|------|---|----------|----------------|---------|
|                             | Result | Qualifier |      |      |   |          |                |         |
| Carbon tetrachloride        | ND     |           | 0.50 | ug/L |   |          | 11/24/18 11:06 | 1       |
| Chlorobenzene               | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Chloroethane                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Chloroform                  | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Chloromethane               | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| cis-1,2-Dichloroethene      | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| cis-1,3-Dichloropropene     | ND     |           | 0.50 | ug/L |   |          | 11/24/18 11:06 | 1       |
| Dibromochloromethane        | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Dibromomethane              | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Dichlorodifluoromethane     | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Ethylbenzene                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Hexachlorobutadiene         | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Isopropyl alcohol           | ND     |           | 250  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Isopropylbenzene            | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| m,p-Xylene                  | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Methylene Chloride          | ND     |           | 5.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Methyl-t-Butyl Ether (MTBE) | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Naphthalene                 | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| n-Butylbenzene              | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| N-Propylbenzene             | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| o-Xylene                    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| p-Isopropyltoluene          | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| sec-Butylbenzene            | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Styrene                     | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| tert-Butylbenzene           | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Tetrachloroethene           | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Toluene                     | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| trans-1,2-Dichloroethene    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| trans-1,3-Dichloropropene   | ND     |           | 0.50 | ug/L |   |          | 11/24/18 11:06 | 1       |
| Trichloroethene             | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Trichlorofluoromethane      | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Vinyl chloride              | ND     |           | 0.50 | ug/L |   |          | 11/24/18 11:06 | 1       |

### MB MB

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 98        |           | 70 - 130 |          | 11/24/18 11:06 | 1       |
| 4-Bromofluorobenzene (Surr)  | 98        |           | 80 - 120 |          | 11/24/18 11:06 | 1       |
| Dibromofluoromethane (Surr)  | 98        |           | 76 - 132 |          | 11/24/18 11:06 | 1       |
| Toluene-d8 (Surr)            | 101       |           | 80 - 128 |          | 11/24/18 11:06 | 1       |

**Lab Sample ID: LCS 440-512972/5**

**Matrix: Water**

**Analysis Batch: 512972**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

| Analyte                   | Spike Added | LCS    |           |      | %Rec. | Limits   |
|---------------------------|-------------|--------|-----------|------|-------|----------|
|                           |             | Result | Qualifier | Unit |       |          |
| 1,1,1,2-Tetrachloroethane | 25.0        | 25.0   |           | ug/L | 100   | 60 - 141 |
| 1,1,1-Trichloroethane     | 25.0        | 23.9   |           | ug/L | 96    | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 25.0        | 25.2   |           | ug/L | 101   | 63 - 130 |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-512972/5**

**Matrix: Water**

**Analysis Batch: 512972**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

| Analyte                               | Spike | LCS    | LCS       | Unit | D | %Rec | %Rec.    | Limits |  |
|---------------------------------------|-------|--------|-----------|------|---|------|----------|--------|--|
|                                       | Added | Result | Qualifier |      |   |      | 96       |        |  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 25.0  | 23.9   |           | ug/L |   | 96   | 60 - 140 |        |  |
| 1,1,2-Trichloroethane                 | 25.0  | 25.1   |           | ug/L |   | 100  | 70 - 130 |        |  |
| 1,1-Dichloroethane                    | 25.0  | 24.6   |           | ug/L |   | 98   | 64 - 130 |        |  |
| 1,1-Dichloroethene                    | 25.0  | 25.1   |           | ug/L |   | 100  | 70 - 130 |        |  |
| 1,1-Dichloropropene                   | 25.0  | 24.1   |           | ug/L |   | 96   | 70 - 130 |        |  |
| 1,2,3-Trichlorobenzene                | 25.0  | 25.1   |           | ug/L |   | 100  | 60 - 140 |        |  |
| 1,2,3-Trichloropropane                | 25.0  | 25.1   |           | ug/L |   | 100  | 63 - 130 |        |  |
| 1,2,4-Trichlorobenzene                | 25.0  | 24.1   |           | ug/L |   | 96   | 60 - 140 |        |  |
| 1,2,4-Trimethylbenzene                | 25.0  | 25.3   |           | ug/L |   | 101  | 70 - 135 |        |  |
| 1,2-Dibromo-3-Chloropropane           | 25.0  | 23.8   |           | ug/L |   | 95   | 52 - 140 |        |  |
| 1,2-Dibromoethane (EDB)               | 25.0  | 25.1   |           | ug/L |   | 100  | 70 - 130 |        |  |
| 1,2-Dichlorobenzene                   | 25.0  | 24.8   |           | ug/L |   | 99   | 70 - 130 |        |  |
| 1,2-Dichloroethane                    | 25.0  | 23.0   |           | ug/L |   | 92   | 57 - 138 |        |  |
| 1,2-Dichloropropane                   | 25.0  | 26.2   |           | ug/L |   | 105  | 67 - 130 |        |  |
| 1,3,5-Trimethylbenzene                | 25.0  | 24.4   |           | ug/L |   | 98   | 70 - 136 |        |  |
| 1,3-Dichlorobenzene                   | 25.0  | 24.0   |           | ug/L |   | 96   | 70 - 130 |        |  |
| 1,3-Dichloropropane                   | 25.0  | 24.9   |           | ug/L |   | 99   | 70 - 130 |        |  |
| 1,4-Dichlorobenzene                   | 25.0  | 24.7   |           | ug/L |   | 99   | 70 - 130 |        |  |
| 2,2-Dichloropropane                   | 25.0  | 23.7   |           | ug/L |   | 95   | 68 - 141 |        |  |
| 2-Chlorotoluene                       | 25.0  | 25.1   |           | ug/L |   | 100  | 70 - 130 |        |  |
| 4-Chlorotoluene                       | 25.0  | 25.1   |           | ug/L |   | 101  | 70 - 130 |        |  |
| Acetone                               | 25.0  | 14.4   |           | ug/L |   | 57   | 10 - 150 |        |  |
| Benzene                               | 25.0  | 24.6   |           | ug/L |   | 98   | 68 - 130 |        |  |
| Bromobenzene                          | 25.0  | 25.7   |           | ug/L |   | 103  | 70 - 130 |        |  |
| Bromochloromethane                    | 25.0  | 25.5   |           | ug/L |   | 102  | 70 - 130 |        |  |
| Bromodichloromethane                  | 25.0  | 25.1   |           | ug/L |   | 101  | 70 - 132 |        |  |
| Bromoform                             | 25.0  | 25.0   |           | ug/L |   | 100  | 60 - 148 |        |  |
| Bromomethane                          | 25.0  | 22.9   |           | ug/L |   | 92   | 64 - 139 |        |  |
| Carbon tetrachloride                  | 25.0  | 23.5   |           | ug/L |   | 94   | 60 - 150 |        |  |
| Chlorobenzene                         | 25.0  | 22.6   |           | ug/L |   | 91   | 70 - 130 |        |  |
| Chloroethane                          | 25.0  | 23.6   |           | ug/L |   | 94   | 64 - 135 |        |  |
| Chloroform                            | 25.0  | 24.9   |           | ug/L |   | 100  | 70 - 130 |        |  |
| Chloromethane                         | 25.0  | 19.7   |           | ug/L |   | 79   | 47 - 140 |        |  |
| cis-1,2-Dichloroethene                | 25.0  | 25.0   |           | ug/L |   | 100  | 70 - 133 |        |  |
| cis-1,3-Dichloropropene               | 25.0  | 26.5   |           | ug/L |   | 106  | 70 - 133 |        |  |
| Dibromochloromethane                  | 25.0  | 25.5   |           | ug/L |   | 102  | 69 - 145 |        |  |
| Dibromomethane                        | 25.0  | 24.2   |           | ug/L |   | 97   | 70 - 130 |        |  |
| Dichlorodifluoromethane               | 25.0  | 19.3   |           | ug/L |   | 77   | 29 - 150 |        |  |
| Ethylbenzene                          | 25.0  | 22.6   |           | ug/L |   | 90   | 70 - 130 |        |  |
| Hexachlorobutadiene                   | 25.0  | 25.3   |           | ug/L |   | 101  | 10 - 150 |        |  |
| Isopropylbenzene                      | 25.0  | 22.2   |           | ug/L |   | 89   | 70 - 136 |        |  |
| m,p-Xylene                            | 25.0  | 23.4   |           | ug/L |   | 94   | 70 - 130 |        |  |
| Methylene Chloride                    | 25.0  | 24.1   |           | ug/L |   | 97   | 52 - 130 |        |  |
| Methyl-t-Butyl Ether (MTBE)           | 25.0  | 24.1   |           | ug/L |   | 96   | 63 - 131 |        |  |
| Naphthalene                           | 25.0  | 23.2   |           | ug/L |   | 93   | 60 - 140 |        |  |
| n-Butylbenzene                        | 25.0  | 23.0   |           | ug/L |   | 92   | 65 - 150 |        |  |
| N-Propylbenzene                       | 25.0  | 24.7   |           | ug/L |   | 99   | 67 - 139 |        |  |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-512972/5**

**Matrix: Water**

**Analysis Batch: 512972**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

| Analyte                   | Spike | LCS    | LCS       | Unit | D | %Rec | %Rec.    |
|---------------------------|-------|--------|-----------|------|---|------|----------|
|                           | Added | Result | Qualifier |      |   |      |          |
| o-Xylene                  | 25.0  | 25.0   |           | ug/L |   | 100  | 70 - 130 |
| p-Isopropyltoluene        | 25.0  | 23.9   |           | ug/L |   | 96   | 70 - 132 |
| sec-Butylbenzene          | 25.0  | 23.4   |           | ug/L |   | 94   | 70 - 138 |
| Styrene                   | 25.0  | 23.9   |           | ug/L |   | 95   | 70 - 134 |
| tert-Butylbenzene         | 25.0  | 24.0   |           | ug/L |   | 96   | 70 - 130 |
| Tetrachloroethene         | 25.0  | 23.6   |           | ug/L |   | 95   | 70 - 130 |
| Toluene                   | 25.0  | 23.7   |           | ug/L |   | 95   | 70 - 130 |
| trans-1,2-Dichloroethene  | 25.0  | 25.9   |           | ug/L |   | 104  | 70 - 130 |
| trans-1,3-Dichloropropene | 25.0  | 25.7   |           | ug/L |   | 103  | 70 - 132 |
| Trichloroethene           | 25.0  | 24.7   |           | ug/L |   | 99   | 70 - 130 |
| Trichlorofluoromethane    | 25.0  | 22.6   |           | ug/L |   | 90   | 60 - 150 |
| Vinyl chloride            | 25.0  | 20.8   |           | ug/L |   | 83   | 59 - 133 |

| Surrogate                    | LCS       | LCS       | Limits   |
|------------------------------|-----------|-----------|----------|
|                              | %Recovery | Qualifier |          |
| 1,2-Dichloroethane-d4 (Surr) | 98        |           | 70 - 130 |
| 4-Bromofluorobenzene (Surr)  | 100       |           | 80 - 120 |
| Dibromofluoromethane (Surr)  | 99        |           | 76 - 132 |
| Toluene-d8 (Surr)            | 99        |           | 80 - 128 |

**Lab Sample ID: 440-224522-A-4 MS**

**Matrix: Water**

**Analysis Batch: 512972**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

| Analyte                               | Sample | Sample    | Spike | MS     | MS        | Unit | D | %Rec | %Rec.    |
|---------------------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|
|                                       | Result | Qualifier | Added | Result | Qualifier |      |   |      |          |
| 1,1,1,2-Tetrachloroethane             | ND     |           | 25.0  | 24.8   |           | ug/L |   | 99   | 60 - 149 |
| 1,1,1-Trichloroethane                 | ND     |           | 25.0  | 25.7   |           | ug/L |   | 103  | 70 - 130 |
| 1,1,2,2-Tetrachloroethane             | ND     |           | 25.0  | 24.5   |           | ug/L |   | 98   | 63 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND     |           | 25.0  | 28.3   |           | ug/L |   | 113  | 60 - 140 |
| 1,1,2-Trichloroethane                 | ND     |           | 25.0  | 24.9   |           | ug/L |   | 99   | 70 - 130 |
| 1,1-Dichloroethane                    | 61     |           | 25.0  | 82.2   |           | ug/L |   | 84   | 65 - 130 |
| 1,1-Dichloroethene                    | ND     |           | 25.0  | 27.9   |           | ug/L |   | 111  | 70 - 130 |
| 1,1-Dichloropropene                   | ND     |           | 25.0  | 26.9   |           | ug/L |   | 108  | 64 - 130 |
| 1,2,3-Trichlorobenzene                | ND     |           | 25.0  | 25.5   |           | ug/L |   | 102  | 60 - 140 |
| 1,2,3-Trichloropropane                | ND     |           | 25.0  | 27.0   |           | ug/L |   | 108  | 60 - 130 |
| 1,2,4-Trichlorobenzene                | ND     |           | 25.0  | 25.1   |           | ug/L |   | 100  | 60 - 140 |
| 1,2,4-Trimethylbenzene                | ND     |           | 25.0  | 25.1   |           | ug/L |   | 100  | 70 - 130 |
| 1,2-Dibromo-3-Chloropropane           | ND     |           | 25.0  | 25.5   |           | ug/L |   | 102  | 48 - 140 |
| 1,2-Dibromoethane (EDB)               | ND     |           | 25.0  | 24.0   |           | ug/L |   | 96   | 70 - 131 |
| 1,2-Dichlorobenzene                   | 2.0    |           | 25.0  | 25.4   |           | ug/L |   | 94   | 70 - 130 |
| 1,2-Dichloroethane                    | ND     |           | 25.0  | 23.3   |           | ug/L |   | 91   | 56 - 146 |
| 1,2-Dichloropropane                   | 2.0    |           | 25.0  | 27.5   |           | ug/L |   | 102  | 69 - 130 |
| 1,3,5-Trimethylbenzene                | ND     |           | 25.0  | 25.9   |           | ug/L |   | 104  | 70 - 130 |
| 1,3-Dichlorobenzene                   | ND     |           | 25.0  | 23.4   |           | ug/L |   | 94   | 70 - 130 |
| 1,3-Dichloropropane                   | ND     |           | 25.0  | 23.5   |           | ug/L |   | 94   | 70 - 130 |
| 1,4-Dichlorobenzene                   | ND     |           | 25.0  | 24.4   |           | ug/L |   | 96   | 70 - 130 |
| 2,2-Dichloropropane                   | ND     |           | 25.0  | 27.3   |           | ug/L |   | 109  | 69 - 138 |
| 2-Chlorotoluene                       | ND     |           | 25.0  | 25.2   |           | ug/L |   | 100  | 70 - 130 |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-224522-A-4 MS

Matrix: Water

Analysis Batch: 512972

Client Sample ID: Matrix Spike  
 Prep Type: Total/NA

| Analyte                      | Sample    | Sample    | Spike | MS       | MS        | Unit | D | %Rec | %Rec.    | Limits |  |
|------------------------------|-----------|-----------|-------|----------|-----------|------|---|------|----------|--------|--|
|                              | Result    | Qualifier | Added | Result   | Qualifier |      |   |      |          |        |  |
| 4-Chlorotoluene              | ND        |           | 25.0  | 25.2     |           | ug/L |   | 101  | 70 - 130 |        |  |
| Acetone                      | ND        |           | 25.0  | 26.9     |           | ug/L |   | 107  | 10 - 150 |        |  |
| Benzene                      | 32        |           | 25.0  | 55.2     |           | ug/L |   | 91   | 66 - 130 |        |  |
| Bromobenzene                 | ND        |           | 25.0  | 24.7     |           | ug/L |   | 99   | 70 - 130 |        |  |
| Bromochloromethane           | ND        |           | 25.0  | 25.9     |           | ug/L |   | 104  | 70 - 130 |        |  |
| Bromodichloromethane         | ND        |           | 25.0  | 25.2     |           | ug/L |   | 101  | 70 - 138 |        |  |
| Bromoform                    | ND        |           | 25.0  | 24.6     |           | ug/L |   | 98   | 59 - 150 |        |  |
| Bromomethane                 | ND        |           | 25.0  | 23.4     |           | ug/L |   | 94   | 62 - 131 |        |  |
| Carbon tetrachloride         | ND        |           | 25.0  | 26.3     |           | ug/L |   | 105  | 60 - 150 |        |  |
| Chlorobenzene                | 44        | F1        | 25.0  | 59.6     | F1        | ug/L |   | 64   | 70 - 130 |        |  |
| Chloroethane                 | ND        |           | 25.0  | 24.5     |           | ug/L |   | 98   | 68 - 130 |        |  |
| Chloroform                   | ND        |           | 25.0  | 24.7     |           | ug/L |   | 99   | 70 - 130 |        |  |
| Chloromethane                | ND        |           | 25.0  | 20.0     |           | ug/L |   | 80   | 39 - 144 |        |  |
| cis-1,2-Dichloroethene       | 6.9       |           | 25.0  | 31.1     |           | ug/L |   | 97   | 70 - 130 |        |  |
| cis-1,3-Dichloropropene      | ND        |           | 25.0  | 26.4     |           | ug/L |   | 106  | 70 - 133 |        |  |
| Dibromochloromethane         | ND        |           | 25.0  | 25.2     |           | ug/L |   | 101  | 70 - 148 |        |  |
| Dibromomethane               | ND        |           | 25.0  | 24.4     |           | ug/L |   | 97   | 70 - 130 |        |  |
| Dichlorodifluoromethane      | ND        |           | 25.0  | 21.9     |           | ug/L |   | 88   | 25 - 142 |        |  |
| Ethylbenzene                 | ND        |           | 25.0  | 23.9     |           | ug/L |   | 96   | 70 - 130 |        |  |
| Hexachlorobutadiene          | ND        |           | 25.0  | 27.6     |           | ug/L |   | 110  | 10 - 150 |        |  |
| Isopropylbenzene             | ND        |           | 25.0  | 23.9     |           | ug/L |   | 96   | 70 - 132 |        |  |
| m,p-Xylene                   | ND        |           | 25.0  | 24.4     |           | ug/L |   | 97   | 70 - 133 |        |  |
| Methylene Chloride           | ND        |           | 25.0  | 24.3     |           | ug/L |   | 97   | 52 - 130 |        |  |
| Methyl-t-Butyl Ether (MTBE)  | ND        |           | 25.0  | 23.7     |           | ug/L |   | 95   | 70 - 130 |        |  |
| Naphthalene                  | ND        |           | 25.0  | 24.0     |           | ug/L |   | 94   | 60 - 140 |        |  |
| n-Butylbenzene               | ND        |           | 25.0  | 25.3     |           | ug/L |   | 101  | 61 - 149 |        |  |
| N-Propylbenzene              | ND        |           | 25.0  | 25.9     |           | ug/L |   | 103  | 66 - 135 |        |  |
| o-Xylene                     | ND        |           | 25.0  | 23.7     |           | ug/L |   | 95   | 70 - 133 |        |  |
| p-Isopropyltoluene           | ND        |           | 25.0  | 25.3     |           | ug/L |   | 101  | 70 - 130 |        |  |
| sec-Butylbenzene             | ND        |           | 25.0  | 26.0     |           | ug/L |   | 104  | 67 - 134 |        |  |
| Styrene                      | ND        |           | 25.0  | 22.0     |           | ug/L |   | 88   | 29 - 150 |        |  |
| tert-Butylbenzene            | ND        |           | 25.0  | 26.4     |           | ug/L |   | 106  | 70 - 130 |        |  |
| Tetrachloroethene            | ND        |           | 25.0  | 25.7     |           | ug/L |   | 103  | 70 - 137 |        |  |
| Toluene                      | ND        |           | 25.0  | 24.0     |           | ug/L |   | 93   | 70 - 130 |        |  |
| trans-1,2-Dichloroethene     | 3.7       |           | 25.0  | 29.8     |           | ug/L |   | 105  | 70 - 130 |        |  |
| trans-1,3-Dichloropropene    | ND        |           | 25.0  | 25.2     |           | ug/L |   | 101  | 70 - 138 |        |  |
| Trichloroethene              | ND        |           | 25.0  | 27.3     |           | ug/L |   | 109  | 70 - 130 |        |  |
| Trichlorofluoromethane       | ND        |           | 25.0  | 26.4     |           | ug/L |   | 106  | 60 - 150 |        |  |
| Vinyl chloride               | 23        |           | 25.0  | 43.3     |           | ug/L |   | 81   | 50 - 137 |        |  |
| <b>MS MS</b>                 |           |           |       |          |           |      |   |      |          |        |  |
| Surrogate                    | %Recovery | Qualifier |       | MS       | MS        |      |   |      |          |        |  |
| 1,2-Dichloroethane-d4 (Surr) | 102       |           |       | 70 - 130 |           |      |   |      |          |        |  |
| 4-Bromofluorobenzene (Surr)  | 99        |           |       | 80 - 120 |           |      |   |      |          |        |  |
| Dibromofluoromethane (Surr)  | 102       |           |       | 76 - 132 |           |      |   |      |          |        |  |
| Toluene-d8 (Surr)            | 99        |           |       | 80 - 128 |           |      |   |      |          |        |  |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-224522-A-4 MSD**

**Matrix: Water**

**Analysis Batch: 512972**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

| Analyte                               | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec. | Limits   | RPD | RPD Limit |
|---------------------------------------|---------------|------------------|-------------|------------|---------------|------|---|-------|----------|-----|-----------|
| 1,1,1,2-Tetrachloroethane             | ND            |                  | 25.0        | 24.7       |               | ug/L |   | 99    | 60 - 149 | 0   | 20        |
| 1,1,1-Trichloroethane                 | ND            |                  | 25.0        | 26.7       |               | ug/L |   | 107   | 70 - 130 | 4   | 20        |
| 1,1,2,2-Tetrachloroethane             | ND            |                  | 25.0        | 24.4       |               | ug/L |   | 97    | 63 - 130 | 1   | 30        |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND            |                  | 25.0        | 27.9       |               | ug/L |   | 112   | 60 - 140 | 1   | 20        |
| 1,1,2-Trichloroethane                 | ND            |                  | 25.0        | 25.8       |               | ug/L |   | 103   | 70 - 130 | 4   | 25        |
| 1,1-Dichloroethane                    | 61            |                  | 25.0        | 77.7       |               | ug/L |   | 66    | 65 - 130 | 6   | 20        |
| 1,1-Dichloroethene                    | ND            |                  | 25.0        | 28.1       |               | ug/L |   | 112   | 70 - 130 | 1   | 20        |
| 1,1-Dichloropropene                   | ND            |                  | 25.0        | 27.2       |               | ug/L |   | 109   | 64 - 130 | 1   | 20        |
| 1,2,3-Trichlorobenzene                | ND            |                  | 25.0        | 25.4       |               | ug/L |   | 102   | 60 - 140 | 0   | 20        |
| 1,2,3-Trichloropropane                | ND            |                  | 25.0        | 26.8       |               | ug/L |   | 107   | 60 - 130 | 1   | 30        |
| 1,2,4-Trichlorobenzene                | ND            |                  | 25.0        | 24.6       |               | ug/L |   | 99    | 60 - 140 | 2   | 20        |
| 1,2,4-Trimethylbenzene                | ND            |                  | 25.0        | 25.9       |               | ug/L |   | 104   | 70 - 130 | 3   | 25        |
| 1,2-Dibromo-3-Chloropropane           | ND            |                  | 25.0        | 23.3       |               | ug/L |   | 93    | 48 - 140 | 9   | 30        |
| 1,2-Dibromoethane (EDB)               | ND            |                  | 25.0        | 25.0       |               | ug/L |   | 100   | 70 - 131 | 4   | 25        |
| 1,2-Dichlorobenzene                   | 2.0           |                  | 25.0        | 26.8       |               | ug/L |   | 99    | 70 - 130 | 5   | 20        |
| 1,2-Dichloroethane                    | ND            |                  | 25.0        | 23.0       |               | ug/L |   | 90    | 56 - 146 | 1   | 20        |
| 1,2-Dichloropropane                   | 2.0           |                  | 25.0        | 27.7       |               | ug/L |   | 103   | 69 - 130 | 1   | 20        |
| 1,3,5-Trimethylbenzene                | ND            |                  | 25.0        | 25.9       |               | ug/L |   | 103   | 70 - 130 | 0   | 20        |
| 1,3-Dichlorobenzene                   | ND            |                  | 25.0        | 24.4       |               | ug/L |   | 98    | 70 - 130 | 4   | 20        |
| 1,3-Dichloropropane                   | ND            |                  | 25.0        | 24.5       |               | ug/L |   | 98    | 70 - 130 | 4   | 25        |
| 1,4-Dichlorobenzene                   | ND            |                  | 25.0        | 24.8       |               | ug/L |   | 98    | 70 - 130 | 2   | 20        |
| 2,2-Dichloropropane                   | ND            |                  | 25.0        | 26.8       |               | ug/L |   | 107   | 69 - 138 | 2   | 25        |
| 2-Chlorotoluene                       | ND            |                  | 25.0        | 25.5       |               | ug/L |   | 101   | 70 - 130 | 1   | 20        |
| 4-Chlorotoluene                       | ND            |                  | 25.0        | 24.8       |               | ug/L |   | 99    | 70 - 130 | 1   | 20        |
| Acetone                               | ND            |                  | 25.0        | 26.8       |               | ug/L |   | 107   | 10 - 150 | 0   | 35        |
| Benzene                               | 32            |                  | 25.0        | 55.8       |               | ug/L |   | 94    | 66 - 130 | 1   | 20        |
| Bromobenzene                          | ND            |                  | 25.0        | 25.5       |               | ug/L |   | 102   | 70 - 130 | 3   | 20        |
| Bromochloromethane                    | ND            |                  | 25.0        | 25.8       |               | ug/L |   | 103   | 70 - 130 | 1   | 25        |
| Bromodichloromethane                  | ND            |                  | 25.0        | 25.7       |               | ug/L |   | 103   | 70 - 138 | 2   | 20        |
| Bromoform                             | ND            |                  | 25.0        | 25.1       |               | ug/L |   | 100   | 59 - 150 | 2   | 25        |
| Bromomethane                          | ND            |                  | 25.0        | 24.0       |               | ug/L |   | 96    | 62 - 131 | 3   | 25        |
| Carbon tetrachloride                  | ND            |                  | 25.0        | 26.7       |               | ug/L |   | 107   | 60 - 150 | 2   | 25        |
| Chlorobenzene                         | 44 F1         |                  | 25.0        | 59.6 F1    |               | ug/L |   | 64    | 70 - 130 | 0   | 20        |
| Chloroethane                          | ND            |                  | 25.0        | 25.3       |               | ug/L |   | 101   | 68 - 130 | 4   | 25        |
| Chloroform                            | ND            |                  | 25.0        | 25.3       |               | ug/L |   | 101   | 70 - 130 | 2   | 20        |
| Chloromethane                         | ND            |                  | 25.0        | 20.6       |               | ug/L |   | 82    | 39 - 144 | 3   | 25        |
| cis-1,2-Dichloroethene                | 6.9           |                  | 25.0        | 30.9       |               | ug/L |   | 96    | 70 - 130 | 1   | 20        |
| cis-1,3-Dichloropropene               | ND            |                  | 25.0        | 27.5       |               | ug/L |   | 110   | 70 - 133 | 4   | 20        |
| Dibromochloromethane                  | ND            |                  | 25.0        | 26.2       |               | ug/L |   | 105   | 70 - 148 | 4   | 25        |
| Dibromomethane                        | ND            |                  | 25.0        | 25.5       |               | ug/L |   | 102   | 70 - 130 | 5   | 25        |
| Dichlorodifluoromethane               | ND            |                  | 25.0        | 21.1       |               | ug/L |   | 85    | 25 - 142 | 3   | 30        |
| Ethylbenzene                          | ND            |                  | 25.0        | 24.5       |               | ug/L |   | 98    | 70 - 130 | 2   | 20        |
| Hexachlorobutadiene                   | ND            |                  | 25.0        | 27.5       |               | ug/L |   | 110   | 10 - 150 | 0   | 20        |
| Isopropylbenzene                      | ND            |                  | 25.0        | 25.5       |               | ug/L |   | 102   | 70 - 132 | 6   | 20        |
| m,p-Xylene                            | ND            |                  | 25.0        | 24.5       |               | ug/L |   | 98    | 70 - 133 | 1   | 25        |
| Methylene Chloride                    | ND            |                  | 25.0        | 24.8       |               | ug/L |   | 99    | 52 - 130 | 2   | 20        |
| Methyl-t-Butyl Ether (MTBE)           | ND            |                  | 25.0        | 23.7       |               | ug/L |   | 95    | 70 - 130 | 0   | 25        |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-224522-A-4 MSD**

**Matrix: Water**

**Analysis Batch: 512972**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

| Analyte                      | Sample Result | Sample Qualifier     | Spike Added          | MSD Result    | MSD Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
|------------------------------|---------------|----------------------|----------------------|---------------|---------------|------|---|------|----------|-----|-------|
| Naphthalene                  | ND            |                      | 25.0                 | 23.4          |               | ug/L |   | 92   | 60 - 140 | 2   | 30    |
| n-Butylbenzene               | ND            |                      | 25.0                 | 25.4          |               | ug/L |   | 101  | 61 - 149 | 0   | 20    |
| N-Propylbenzene              | ND            |                      | 25.0                 | 25.1          |               | ug/L |   | 100  | 66 - 135 | 3   | 20    |
| o-Xylene                     | ND            |                      | 25.0                 | 24.8          |               | ug/L |   | 99   | 70 - 133 | 4   | 20    |
| p-Isopropyltoluene           | ND            |                      | 25.0                 | 25.7          |               | ug/L |   | 103  | 70 - 130 | 2   | 20    |
| sec-Butylbenzene             | ND            |                      | 25.0                 | 25.9          |               | ug/L |   | 103  | 67 - 134 | 1   | 20    |
| Styrene                      | ND            |                      | 25.0                 | 24.3          |               | ug/L |   | 97   | 29 - 150 | 10  | 35    |
| tert-Butylbenzene            | ND            |                      | 25.0                 | 26.0          |               | ug/L |   | 104  | 70 - 130 | 2   | 20    |
| Tetrachloroethene            | ND            |                      | 25.0                 | 26.4          |               | ug/L |   | 105  | 70 - 137 | 3   | 20    |
| Toluene                      | ND            |                      | 25.0                 | 25.4          |               | ug/L |   | 98   | 70 - 130 | 5   | 20    |
| trans-1,2-Dichloroethene     | 3.7           |                      | 25.0                 | 30.3          |               | ug/L |   | 107  | 70 - 130 | 2   | 20    |
| trans-1,3-Dichloropropene    | ND            |                      | 25.0                 | 26.7          |               | ug/L |   | 107  | 70 - 138 | 6   | 25    |
| Trichloroethene              | ND            |                      | 25.0                 | 27.2          |               | ug/L |   | 109  | 70 - 130 | 0   | 20    |
| Trichlorofluoromethane       | ND            |                      | 25.0                 | 26.3          |               | ug/L |   | 105  | 60 - 150 | 0   | 25    |
| Vinyl chloride               | 23            |                      | 25.0                 | 43.1          |               | ug/L |   | 80   | 50 - 137 | 1   | 30    |
| <b>Surrogate</b>             |               | <b>MSD %Recovery</b> | <b>MSD Qualifier</b> | <b>Limits</b> |               |      |   |      |          |     |       |
| 1,2-Dichloroethane-d4 (Surr) | 101           |                      |                      | 70 - 130      |               |      |   |      |          |     |       |
| 4-Bromofluorobenzene (Surr)  | 106           |                      |                      | 80 - 120      |               |      |   |      |          |     |       |
| Dibromofluoromethane (Surr)  | 99            |                      |                      | 76 - 132      |               |      |   |      |          |     |       |
| Toluene-d8 (Surr)            | 99            |                      |                      | 80 - 128      |               |      |   |      |          |     |       |

**Lab Sample ID: MB 440-513044/4**

**Matrix: Water**

**Analysis Batch: 513044**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

| Analyte                      | MB Result | MB Qualifier        | RL                  | Unit          | D | Prepared        | Analyzed        | Dil Fac        |
|------------------------------|-----------|---------------------|---------------------|---------------|---|-----------------|-----------------|----------------|
| Acetone                      | ND        |                     | 10                  | ug/L          |   |                 | 11/26/18 08:38  | 1              |
| <b>Surrogate</b>             |           | <b>MB %Recovery</b> | <b>MB Qualifier</b> | <b>Limits</b> |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| 1,2-Dichloroethane-d4 (Surr) | 123       |                     |                     | 70 - 130      |   |                 | 11/26/18 08:38  | 1              |
| 4-Bromofluorobenzene (Surr)  | 93        |                     |                     | 80 - 120      |   |                 | 11/26/18 08:38  | 1              |
| Dibromofluoromethane (Surr)  | 118       |                     |                     | 76 - 132      |   |                 | 11/26/18 08:38  | 1              |
| Toluene-d8 (Surr)            | 99        |                     |                     | 80 - 128      |   |                 | 11/26/18 08:38  | 1              |

**Lab Sample ID: LCS 440-513044/5**

**Matrix: Water**

**Analysis Batch: 513044**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

| Analyte                      | Spike Added | LCS Result           | LCS Qualifier        | Unit          | D | %Rec | Limits   |
|------------------------------|-------------|----------------------|----------------------|---------------|---|------|----------|
| Acetone                      | 25.0        | 18.4                 |                      | ug/L          |   | 74   | 10 - 150 |
| <b>Surrogate</b>             |             | <b>LCS %Recovery</b> | <b>LCS Qualifier</b> | <b>Limits</b> |   |      |          |
| 1,2-Dichloroethane-d4 (Surr) | 124         |                      |                      | 70 - 130      |   |      |          |
| 4-Bromofluorobenzene (Surr)  | 93          |                      |                      | 80 - 120      |   |      |          |
| Dibromofluoromethane (Surr)  | 118         |                      |                      | 76 - 132      |   |      |          |
| Toluene-d8 (Surr)            | 96          |                      |                      | 80 - 128      |   |      |          |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-224495-A-13 MS**

**Matrix: Water**

**Analysis Batch: 513044**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

| Analyte                      | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|------------------------------|---------------|------------------|-------------|-----------|--------------|------|---|------|--------------|
| Acetone                      | ND            |                  | 25.0        | 37.1      |              | ug/L |   | 149  | 10 - 150     |
| <b>Surrogate</b>             |               |                  |             |           |              |      |   |      |              |
|                              |               |                  |             |           |              |      |   |      |              |
| 1,2-Dichloroethane-d4 (Surr) | 143           | X                |             | 70 - 130  |              |      |   |      |              |
| 4-Bromofluorobenzene (Surr)  | 86            |                  |             | 80 - 120  |              |      |   |      |              |
| Dibromofluoromethane (Surr)  | 123           |                  |             | 76 - 132  |              |      |   |      |              |
| Toluene-d8 (Surr)            | 95            |                  |             | 80 - 128  |              |      |   |      |              |

**Lab Sample ID: 440-224495-A-13 MSD**

**Matrix: Water**

**Analysis Batch: 513044**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

| Analyte                      | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|------------------------------|---------------|------------------|-------------|------------|---------------|------|---|------|--------------|-----|-----------|
| Acetone                      | ND            |                  | 25.0        | 34.2       |               | ug/L |   | 137  | 10 - 150     | 8   | 35        |
| <b>Surrogate</b>             |               |                  |             |            |               |      |   |      |              |     |           |
|                              |               |                  |             |            |               |      |   |      |              |     |           |
| 1,2-Dichloroethane-d4 (Surr) | 127           |                  |             | 70 - 130   |               |      |   |      |              |     |           |
| 4-Bromofluorobenzene (Surr)  | 87            |                  |             | 80 - 120   |               |      |   |      |              |     |           |
| Dibromofluoromethane (Surr)  | 123           |                  |             | 76 - 132   |               |      |   |      |              |     |           |
| Toluene-d8 (Surr)            | 95            |                  |             | 80 - 128   |               |      |   |      |              |     |           |

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 440-512081/1-A**

**Matrix: Water**

**Analysis Batch: 512621**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

**Prep Batch: 512081**

| Analyte                              | MB Result | MB Qualifier | RL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|-----------|--------------|----|------|---|----------------|----------------|---------|
| 1,2,4-Trichlorobenzene               | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 1,2-Dichlorobenzene                  | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 1,2-Diphenylhydrazine(as Azobenzene) | ND        |              | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 1,3-Dichlorobenzene                  | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 1,4-Dichlorobenzene                  | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2,4,5-Trichlorophenol                | ND        |              | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2,4,6-Trichlorophenol                | ND        |              | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2,4-Dichlorophenol                   | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2,4-Dimethylphenol                   | ND        |              | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2,4-Dinitrophenol                    | ND        |              | 40 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2,4-Dinitrotoluene                   | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2,6-Dinitrotoluene                   | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2-Chloronaphthalene                  | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2-Chlorophenol                       | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2-Methylnaphthalene                  | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2-Methylphenol                       | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2-Nitroaniline                       | ND        |              | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2-Nitrophenol                        | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 440-512081/1-A**  
**Matrix: Water**  
**Analysis Batch: 512621**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 512081**

| Analyte                         | MB | MB | Result | Qualifier | RL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------------------------------|----|----|--------|-----------|----|------|---|----------------|----------------|---------|
| 3,3'-Dichlorobenzidine          |    | ND |        |           | 40 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 3-Methylphenol + 4-Methylphenol |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 3-Nitroaniline                  |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 4,6-Dinitro-2-methylphenol      |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 4-Bromophenyl phenyl ether      |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 4-Chloro-3-methylphenol         |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 4-Chloroaniline                 |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 4-Chlorophenyl phenyl ether     |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 4-Nitroaniline                  |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 4-Nitrophenol                   |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Acenaphthene                    |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Acenaphthylene                  |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Aniline                         |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Anthracene                      |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Benzidine                       |    | ND |        |           | 40 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Benzo[a]anthracene              |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Benzo[a]pyrene                  |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Benzo[b]fluoranthene            |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Benzo[g,h,i]perylene            |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Benzo[k]fluoranthene            |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Benzoic acid                    |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Benzyl alcohol                  |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| bis (2-chloroisopropyl) ether   |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Bis(2-chloroethoxy)methane      |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Bis(2-chloroethyl)ether         |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Bis(2-ethylhexyl) phthalate     |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Butyl benzyl phthalate          |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Chrysene                        |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Dibenz(a,h)anthracene           |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Dibenzofuran                    |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Diethyl phthalate               |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Dimethyl phthalate              |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Di-n-butyl phthalate            |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Di-n-octyl phthalate            |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Fluoranthene                    |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Fluorene                        |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Hexachlorobenzene               |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Hexachlorobutadiene             |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Hexachlorocyclopentadiene       |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Hexachloroethane                |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Indeno[1,2,3-cd]pyrene          |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Isophorone                      |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Naphthalene                     |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Nitrobenzene                    |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| N-Nitrosodimethylamine          |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| N-Nitrosodi-n-propylamine       |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| N-Nitrosodiphenylamine          |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Pentachlorophenol               |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 440-512081/1-A**

**Matrix: Water**

**Analysis Batch: 512621**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 512081**

| Analyte      | MB     |           | RL | Unit | D | Prepared       |                | Dil Fac |
|--------------|--------|-----------|----|------|---|----------------|----------------|---------|
|              | Result | Qualifier |    |      |   | Prepared       | Analyzed       |         |
| Phenanthrene | ND     |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Phenol       | ND     |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Pyrene       | ND     |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |

| Surrogate                   | MB        |           | Limits   | Prepared       |                | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
|                             | %Recovery | Qualifier |          | Prepared       | Analyzed       |         |
| 2,4,6-Tribromophenol (Surr) | 86        |           | 40 - 120 | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2-Fluorobiphenyl            | 77        |           | 50 - 120 | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2-Fluorophenol (Surr)       | 65        |           | 30 - 120 | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Nitrobenzene-d5 (Surr)      | 72        |           | 45 - 120 | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Phenol-d6 (Surr)            | 71        |           | 35 - 120 | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Terphenyl-d14 (Surr)        | 105       |           | 10 - 150 | 11/19/18 09:41 | 11/21/18 13:50 | 1       |

**Lab Sample ID: LCS 440-512081/2-A**

**Matrix: Water**

**Analysis Batch: 512621**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 512081**

| Analyte                              | Spike Added | LCS      |           | Unit | D | %Rec | Limits   |
|--------------------------------------|-------------|----------|-----------|------|---|------|----------|
|                                      |             | Result   | Qualifier |      |   |      |          |
| 1,2,4-Trichlorobenzene               | 100         | 71.8     |           | ug/L |   | 72   | 25 - 84  |
| 1,2-Dichlorobenzene                  | 100         | 63.1     |           | ug/L |   | 63   | 24 - 85  |
| 1,2-Diphenylhydrazine(as Azobenzene) | 100         | 99.0     |           | ug/L |   | 99   | 44 - 113 |
| 1,3-Dichlorobenzene                  | 100         | 60.2     |           | ug/L |   | 60   | 20 - 80  |
| 1,4-Dichlorobenzene                  | 100         | 61.3     |           | ug/L |   | 61   | 22 - 81  |
| 2,4,5-Trichlorophenol                | 100         | 95.8     |           | ug/L |   | 96   | 24 - 121 |
| 2,4,6-Trichlorophenol                | 100         | 97.6     |           | ug/L |   | 98   | 20 - 121 |
| 2,4-Dichlorophenol                   | 100         | 84.5     |           | ug/L |   | 85   | 23 - 113 |
| 2,4-Dimethylphenol                   | 100         | 86.1     |           | ug/L |   | 86   | 39 - 94  |
| 2,4-Dinitrophenol                    | 200         | 184      |           | ug/L |   | 92   | 23 - 134 |
| 2,4-Dinitrotoluene                   | 100         | 99.5     |           | ug/L |   | 99   | 54 - 115 |
| 2,6-Dinitrotoluene                   | 100         | 98.2     |           | ug/L |   | 98   | 50 - 115 |
| 2-Chloronaphthalene                  | 100         | 87.7     |           | ug/L |   | 88   | 34 - 102 |
| 2-Chlorophenol                       | 100         | 66.6     |           | ug/L |   | 67   | 20 - 106 |
| 2-Methylnaphthalene                  | 100         | 86.1     |           | ug/L |   | 86   | 34 - 98  |
| 2-Methylphenol                       | 100         | 80.5     |           | ug/L |   | 80   | 36 - 103 |
| 2-Nitroaniline                       | 100         | 101      |           | ug/L |   | 101  | 48 - 111 |
| 2-Nitrophenol                        | 100         | 82.4     |           | ug/L |   | 82   | 20 - 117 |
| 3,3'-Dichlorobenzidine               | 100         | 19.3 J * |           | ug/L |   | 19   | 22 - 97  |
| 3-Methylphenol + 4-Methylphenol      | 100         | 80.1     |           | ug/L |   | 80   | 35 - 106 |
| 3-Nitroaniline                       | 100         | 63.1     |           | ug/L |   | 63   | 51 - 116 |
| 4,6-Dinitro-2-methylphenol           | 200         | 192      |           | ug/L |   | 96   | 28 - 139 |
| 4-Bromophenyl phenyl ether           | 100         | 97.7     |           | ug/L |   | 98   | 42 - 113 |
| 4-Chloro-3-methylphenol              | 100         | 97.5     |           | ug/L |   | 98   | 44 - 110 |
| 4-Chloroaniline                      | 100         | 32.3 *   |           | ug/L |   | 32   | 42 - 109 |
| 4-Chlorophenyl phenyl ether          | 100         | 95.0     |           | ug/L |   | 95   | 38 - 115 |
| 4-Nitroaniline                       | 100         | 82.5     |           | ug/L |   | 83   | 50 - 116 |
| 4-Nitrophenol                        | 200         | 195      |           | ug/L |   | 97   | 26 - 132 |
| Acenaphthene                         | 100         | 91.9     |           | ug/L |   | 92   | 37 - 107 |
| Acenaphthylene                       | 100         | 92.2     |           | ug/L |   | 92   | 39 - 107 |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-512081/2-A**

**Matrix: Water**

**Analysis Batch: 512621**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 512081**

**%Rec.**

| Analyte                       | Spike Added | LCS Result | LCS Qualifier | Unit | D   | %Rec     | Limits |
|-------------------------------|-------------|------------|---------------|------|-----|----------|--------|
| Aniline                       | 100         | 66.5       |               | ug/L | 67  | 27 - 115 |        |
| Anthracene                    | 100         | 99.0       |               | ug/L | 99  | 42 - 120 |        |
| Benzidine                     | 100         | 53.8       |               | ug/L | 54  | 5 - 150  |        |
| Benzo[a]anthracene            | 100         | 101        |               | ug/L | 101 | 42 - 115 |        |
| Benzo[a]pyrene                | 100         | 84.9       |               | ug/L | 85  | 41 - 117 |        |
| Benzo[b]fluoranthene          | 100         | 84.2       |               | ug/L | 84  | 36 - 113 |        |
| Benzo[g,h,i]perylene          | 100         | 87.7       |               | ug/L | 88  | 37 - 115 |        |
| Benzo[k]fluoranthene          | 100         | 81.8       |               | ug/L | 82  | 42 - 122 |        |
| Benzoic acid                  | 100         | 101        |               | ug/L | 101 | 15 - 121 |        |
| Benzyl alcohol                | 100         | 83.0       |               | ug/L | 83  | 39 - 106 |        |
| bis (2-chloroisopropyl) ether | 100         | 78.0       |               | ug/L | 78  | 38 - 104 |        |
| Bis(2-chloroethoxy)methane    | 100         | 86.2       |               | ug/L | 86  | 47 - 104 |        |
| Bis(2-chloroethyl)ether       | 100         | 72.5       |               | ug/L | 73  | 42 - 99  |        |
| Bis(2-ethylhexyl) phthalate   | 100         | 102        |               | ug/L | 102 | 43 - 124 |        |
| Butyl benzyl phthalate        | 100         | 107        |               | ug/L | 107 | 44 - 122 |        |
| Chrysene                      | 100         | 98.1       |               | ug/L | 98  | 42 - 118 |        |
| Dibenz(a,h)anthracene         | 100         | 88.4       |               | ug/L | 88  | 40 - 114 |        |
| Dibenzofuran                  | 100         | 93.5       |               | ug/L | 93  | 37 - 113 |        |
| Diethyl phthalate             | 100         | 100        |               | ug/L | 100 | 51 - 120 |        |
| Dimethyl phthalate            | 100         | 97.1       |               | ug/L | 97  | 49 - 113 |        |
| Di-n-butyl phthalate          | 100         | 103        |               | ug/L | 103 | 47 - 125 |        |
| Di-n-octyl phthalate          | 100         | 111        |               | ug/L | 111 | 42 - 125 |        |
| Fluoranthene                  | 100         | 103        |               | ug/L | 103 | 44 - 119 |        |
| Fluorene                      | 100         | 96.3       |               | ug/L | 96  | 39 - 116 |        |
| Hexachlorobenzene             | 100         | 101        |               | ug/L | 101 | 43 - 112 |        |
| Hexachlorobutadiene           | 100         | 66.3       |               | ug/L | 66  | 14 - 77  |        |
| Hexachlorocyclopentadiene     | 100         | 69.6       |               | ug/L | 70  | 10 - 77  |        |
| Hexachloroethane              | 100         | 56.4       |               | ug/L | 56  | 13 - 75  |        |
| Indeno[1,2,3-cd]pyrene        | 100         | 83.9       |               | ug/L | 84  | 35 - 116 |        |
| Isophorone                    | 100         | 94.9       |               | ug/L | 95  | 48 - 107 |        |
| Naphthalene                   | 100         | 78.0       |               | ug/L | 78  | 33 - 95  |        |
| Nitrobenzene                  | 100         | 79.3       |               | ug/L | 79  | 42 - 99  |        |
| N-Nitrosodimethylamine        | 100         | 71.1       |               | ug/L | 71  | 35 - 96  |        |
| N-Nitrosodi-n-propylamine     | 100         | 90.8       |               | ug/L | 91  | 44 - 111 |        |
| N-Nitrosodiphenylamine        | 100         | 96.2       |               | ug/L | 96  | 46 - 116 |        |
| Pentachlorophenol             | 200         | 181        |               | ug/L | 90  | 26 - 136 |        |
| Phenanthrene                  | 100         | 98.6       |               | ug/L | 99  | 43 - 120 |        |
| Phenol                        | 100         | 74.8       |               | ug/L | 75  | 25 - 99  |        |
| Pyrene                        | 100         | 102        |               | ug/L | 102 | 43 - 119 |        |

| Surrogate                   | LCS %Recovery | LCS Qualifier | Limits   |
|-----------------------------|---------------|---------------|----------|
| 2,4,6-Tribromophenol (Surr) | 102           |               | 40 - 120 |
| 2-Fluorobiphenyl            | 90            |               | 50 - 120 |
| 2-Fluorophenol (Surr)       | 56            |               | 30 - 120 |
| Nitrobenzene-d5 (Surr)      | 79            |               | 45 - 120 |
| Phenol-d6 (Surr)            | 70            |               | 35 - 120 |
| Terphenyl-d14 (Surr)        | 104           |               | 10 - 150 |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 440-512081/3-A**

**Matrix: Water**

**Analysis Batch: 512621**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 512081**

| Analyte                              | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec.    | RPD | RPD Limit |
|--------------------------------------|-------------|-------------|----------------|------|---|------|----------|-----|-----------|
|                                      |             |             |                |      |   |      | Limits   |     |           |
| 1,2,4-Trichlorobenzene               | 100         | 70.1        |                | ug/L |   | 70   | 25 - 84  | 2   | 35        |
| 1,2-Dichlorobenzene                  | 100         | 55.9        |                | ug/L |   | 56   | 24 - 85  | 12  | 35        |
| 1,2-Diphenylhydrazine(as Azobenzene) | 100         | 102         |                | ug/L |   | 102  | 44 - 113 | 3   | 35        |
| 1,3-Dichlorobenzene                  | 100         | 52.5        |                | ug/L |   | 52   | 20 - 80  | 14  | 35        |
| 1,4-Dichlorobenzene                  | 100         | 53.7        |                | ug/L |   | 54   | 22 - 81  | 13  | 35        |
| 2,4,5-Trichlorophenol                | 100         | 96.8        |                | ug/L |   | 97   | 24 - 121 | 1   | 35        |
| 2,4,6-Trichlorophenol                | 100         | 101         |                | ug/L |   | 101  | 20 - 121 | 4   | 35        |
| 2,4-Dichlorophenol                   | 100         | 89.3        |                | ug/L |   | 89   | 23 - 113 | 5   | 35        |
| 2,4-Dimethylphenol                   | 100         | 90.0        |                | ug/L |   | 90   | 39 - 94  | 4   | 35        |
| 2,4-Dinitrophenol                    | 200         | 178         |                | ug/L |   | 89   | 23 - 134 | 3   | 35        |
| 2,4-Dinitrotoluene                   | 100         | 101         |                | ug/L |   | 101  | 54 - 115 | 2   | 35        |
| 2,6-Dinitrotoluene                   | 100         | 100         |                | ug/L |   | 100  | 50 - 115 | 2   | 35        |
| 2-Chloronaphthalene                  | 100         | 89.2        |                | ug/L |   | 89   | 34 - 102 | 2   | 35        |
| 2-Chlorophenol                       | 100         | 63.4        |                | ug/L |   | 63   | 20 - 106 | 5   | 35        |
| 2-Methylnaphthalene                  | 100         | 87.1        |                | ug/L |   | 87   | 34 - 98  | 1   | 35        |
| 2-Methylphenol                       | 100         | 80.9        |                | ug/L |   | 81   | 36 - 103 | 1   | 35        |
| 2-Nitroaniline                       | 100         | 103         |                | ug/L |   | 103  | 48 - 111 | 2   | 35        |
| 2-Nitrophenol                        | 100         | 83.7        |                | ug/L |   | 84   | 20 - 117 | 2   | 35        |
| 3,3'-Dichlorobenzidine               | 100         | 73.8 *      |                | ug/L |   | 74   | 22 - 97  | 117 | 35        |
| 3-Methylphenol + 4-Methylphenol      | 100         | 85.0        |                | ug/L |   | 85   | 35 - 106 | 6   | 35        |
| 3-Nitroaniline                       | 100         | 98.1 *      |                | ug/L |   | 98   | 51 - 116 | 44  | 35        |
| 4,6-Dinitro-2-methylphenol           | 200         | 186         |                | ug/L |   | 93   | 28 - 139 | 3   | 35        |
| 4-Bromophenyl phenyl ether           | 100         | 99.6        |                | ug/L |   | 100  | 42 - 113 | 2   | 35        |
| 4-Chloro-3-methylphenol              | 100         | 100         |                | ug/L |   | 100  | 44 - 110 | 3   | 35        |
| 4-Chloroaniline                      | 100         | 76.8 *      |                | ug/L |   | 77   | 42 - 109 | 81  | 35        |
| 4-Chlorophenyl phenyl ether          | 100         | 97.5        |                | ug/L |   | 98   | 38 - 115 | 3   | 35        |
| 4-Nitroaniline                       | 100         | 97.7        |                | ug/L |   | 98   | 50 - 116 | 17  | 35        |
| 4-Nitrophenol                        | 200         | 201         |                | ug/L |   | 101  | 26 - 132 | 3   | 35        |
| Acenaphthene                         | 100         | 94.2        |                | ug/L |   | 94   | 37 - 107 | 2   | 35        |
| Acenaphthylene                       | 100         | 94.9        |                | ug/L |   | 95   | 39 - 107 | 3   | 35        |
| Aniline                              | 100         | 86.2        |                | ug/L |   | 86   | 27 - 115 | 26  | 35        |
| Anthracene                           | 100         | 102         |                | ug/L |   | 102  | 42 - 120 | 3   | 35        |
| Benzidine                            | 100         | 51.9        |                | ug/L |   | 52   | 5 - 150  | 4   | 35        |
| Benzo[a]anthracene                   | 100         | 100         |                | ug/L |   | 100  | 42 - 115 | 0   | 35        |
| Benzo[a]pyrene                       | 100         | 85.7        |                | ug/L |   | 86   | 41 - 117 | 1   | 35        |
| Benzo[b]fluoranthene                 | 100         | 86.4        |                | ug/L |   | 86   | 36 - 113 | 3   | 35        |
| Benzo[g,h,i]perylene                 | 100         | 89.3        |                | ug/L |   | 89   | 37 - 115 | 2   | 35        |
| Benzo[k]fluoranthene                 | 100         | 83.0        |                | ug/L |   | 83   | 42 - 122 | 1   | 35        |
| Benzoic acid                         | 100         | 107         |                | ug/L |   | 107  | 15 - 121 | 6   | 35        |
| Benzyl alcohol                       | 100         | 83.1        |                | ug/L |   | 83   | 39 - 106 | 0   | 35        |
| bis (2-chloroisopropyl) ether        | 100         | 73.7        |                | ug/L |   | 74   | 38 - 104 | 6   | 35        |
| Bis(2-chloroethoxy)methane           | 100         | 87.9        |                | ug/L |   | 88   | 47 - 104 | 2   | 35        |
| Bis(2-chloroethyl)ether              | 100         | 65.6        |                | ug/L |   | 66   | 42 - 99  | 10  | 35        |
| Bis(2-ethylhexyl) phthalate          | 100         | 104         |                | ug/L |   | 104  | 43 - 124 | 1   | 35        |
| Butyl benzyl phthalate               | 100         | 107         |                | ug/L |   | 107  | 44 - 122 | 0   | 35        |
| Chrysene                             | 100         | 98.4        |                | ug/L |   | 98   | 42 - 118 | 0   | 35        |
| Dibenz(a,h)anthracene                | 100         | 89.2        |                | ug/L |   | 89   | 40 - 114 | 1   | 35        |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 440-512081/3-A**

**Matrix: Water**

**Analysis Batch: 512621**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 512081**

**%Rec.**

**RPD**

| Analyte                   | Spike Added | LCSD Result | LCSD Qualifier | Unit | D   | %Rec     | Limits | RPD | Limit |
|---------------------------|-------------|-------------|----------------|------|-----|----------|--------|-----|-------|
| Dibenzofuran              | 100         | 95.6        |                | ug/L | 96  | 37 - 113 | 2      | 35  |       |
| Diethyl phthalate         | 100         | 103         |                | ug/L | 103 | 51 - 120 | 2      | 35  |       |
| Dimethyl phthalate        | 100         | 99.0        |                | ug/L | 99  | 49 - 113 | 2      | 35  |       |
| Di-n-butyl phthalate      | 100         | 105         |                | ug/L | 105 | 47 - 125 | 2      | 35  |       |
| Di-n-octyl phthalate      | 100         | 111         |                | ug/L | 111 | 42 - 125 | 0      | 35  |       |
| Fluoranthene              | 100         | 105         |                | ug/L | 105 | 44 - 119 | 2      | 35  |       |
| Fluorene                  | 100         | 99.5        |                | ug/L | 99  | 39 - 116 | 3      | 35  |       |
| Hexachlorobenzene         | 100         | 101         |                | ug/L | 101 | 43 - 112 | 0      | 35  |       |
| Hexachlorobutadiene       | 100         | 60.8        |                | ug/L | 61  | 14 - 77  | 9      | 35  |       |
| Hexachlorocyclopentadiene | 100         | 66.0        |                | ug/L | 66  | 10 - 77  | 5      | 35  |       |
| Hexachloroethane          | 100         | 49.5        |                | ug/L | 50  | 13 - 75  | 13     | 35  |       |
| Indeno[1,2,3-cd]pyrene    | 100         | 86.3        |                | ug/L | 86  | 35 - 116 | 3      | 35  |       |
| Isophorone                | 100         | 99.3        |                | ug/L | 99  | 48 - 107 | 4      | 35  |       |
| Naphthalene               | 100         | 76.5        |                | ug/L | 77  | 33 - 95  | 2      | 35  |       |
| Nitrobenzene              | 100         | 77.2        |                | ug/L | 77  | 42 - 99  | 3      | 35  |       |
| N-Nitrosodimethylamine    | 100         | 64.2        |                | ug/L | 64  | 35 - 96  | 10     | 35  |       |
| N-Nitrosodi-n-propylamine | 100         | 94.8        |                | ug/L | 95  | 44 - 111 | 4      | 35  |       |
| N-Nitrosodiphenylamine    | 100         | 99.7        |                | ug/L | 100 | 46 - 116 | 4      | 35  |       |
| Pentachlorophenol         | 200         | 180         |                | ug/L | 90  | 26 - 136 | 1      | 35  |       |
| Phenanthrene              | 100         | 101         |                | ug/L | 101 | 43 - 120 | 3      | 35  |       |
| Phenol                    | 100         | 76.5        |                | ug/L | 77  | 25 - 99  | 2      | 35  |       |
| Pyrene                    | 100         | 102         |                | ug/L | 102 | 43 - 119 | 0      | 35  |       |

| Surrogate                   | LCSD %Recovery | LCSD Qualifier | Limits   |
|-----------------------------|----------------|----------------|----------|
| 2,4,6-Tribromophenol (Surr) | 102            |                | 40 - 120 |
| 2-Fluorobiphenyl            | 91             |                | 50 - 120 |
| 2-Fluorophenol (Surr)       | 52             |                | 30 - 120 |
| Nitrobenzene-d5 (Surr)      | 77             |                | 45 - 120 |
| Phenol-d6 (Surr)            | 68             |                | 35 - 120 |
| Terphenyl-d14 (Surr)        | 104            |                | 10 - 150 |

## Method: 8270C SIM - 1,4 Dioxane by SIM

**Lab Sample ID: MB 440-512451/1-A**

**Matrix: Water**

**Analysis Batch: 512653**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 512451**

| Analyte               | MB Result    | MB Qualifier | RL       | Unit | D              | Prepared       | Analyzed       | Dil Fac |
|-----------------------|--------------|--------------|----------|------|----------------|----------------|----------------|---------|
| 1,4-Dioxane           | ND           |              | 0.50     | ug/L | 11/20/18 12:23 | 11/21/18 14:42 |                | 1       |
| Surrogate             | MB %Recovery | MB Qualifier | Limits   |      |                | Prepared       | Analyzed       | Dil Fac |
| 1,4-Dioxane-d8 (Surr) | 58           |              | 27 - 120 |      |                | 11/20/18 12:23 | 11/21/18 14:42 | 1       |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Method: 8270C SIM - 1,4 Dioxane by SIM (Continued)

**Lab Sample ID: LCS 440-512451/2-A**

**Matrix: Water**

**Analysis Batch: 512653**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 512451**

| Analyte               | Spike Added | LCS Result    | LCS Qualifier | Unit     | D | %Rec. | Limits   |
|-----------------------|-------------|---------------|---------------|----------|---|-------|----------|
| 1,4-Dioxane           | 2.00        | 1.19          |               | ug/L     |   | 60    | 36 - 120 |
| <b>Surrogate</b>      |             |               |               |          |   |       |          |
|                       |             | LCS %Recovery | LCS Qualifier | Limits   |   |       |          |
| 1,4-Dioxane-d8 (Surr) | 57          |               |               | 27 - 120 |   |       |          |

**Lab Sample ID: LCSD 440-512451/3-A**

**Matrix: Water**

**Analysis Batch: 512653**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 512451**

| Analyte               | Spike Added | LCSD Result    | LCSD Qualifier | Unit     | D | %Rec. | RPD      | Limit |
|-----------------------|-------------|----------------|----------------|----------|---|-------|----------|-------|
| 1,4-Dioxane           | 2.00        | 1.16           |                | ug/L     |   | 58    | 36 - 120 | 3     |
| <b>Surrogate</b>      |             |                |                |          |   |       |          |       |
|                       |             | LCSD %Recovery | LCSD Qualifier | Limits   |   |       |          |       |
| 1,4-Dioxane-d8 (Surr) | 55          |                |                | 27 - 120 |   |       |          |       |

## Method: SM 2540D - Solids, Total Suspended (TSS)

**Lab Sample ID: MB 440-512804/1**

**Matrix: Water**

**Analysis Batch: 512804**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

| Analyte                | MB Result | MB Qualifier | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------|-----------|--------------|-----|------|---|----------|----------------|---------|
| Total Suspended Solids | ND        |              | 1.0 | mg/L |   |          | 11/21/18 21:42 | 1       |

**Lab Sample ID: LCS 440-512804/2**

**Matrix: Water**

**Analysis Batch: 512804**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

| Analyte                | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec. | Limits   |
|------------------------|-------------|------------|---------------|------|---|-------|----------|
| Total Suspended Solids | 1000        | 1050       |               | mg/L |   | 105   | 85 - 115 |

**Lab Sample ID: 440-224774-A-1 DU**

**Matrix: Water**

**Analysis Batch: 512804**

**Client Sample ID: Duplicate**

**Prep Type: Total/NA**

| Analyte                | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | Limit |
|------------------------|---------------|------------------|-----------|--------------|------|---|-----|-------|
| Total Suspended Solids | 7700          |                  | 7800      |              | mg/L |   | 1   | 10    |

## Method: SM 4500 H+ B - pH

**Lab Sample ID: 440-224542-H-1 DU**

**Matrix: Water**

**Analysis Batch: 512170**

**Client Sample ID: Duplicate**

**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | Limit |
|---------|---------------|------------------|-----------|--------------|------|---|-----|-------|
| pH      | 7.9           |                  | 7.9       |              | SU   |   | 0.3 | 2     |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Method: SM 4500 S2 D - Sulfide, Total

**Lab Sample ID:** MB 440-512770/1-A

**Matrix:** Water

**Analysis Batch:** 512779

| Analyte            | MB<br>Result | MB<br>Qualifier | RL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------------|--------------|-----------------|-------|------|---|----------------|----------------|---------|
| Sulfide, Dissolved | ND           |                 | 0.050 | mg/L |   | 11/21/18 16:53 | 11/21/18 17:35 | 1       |

**Lab Sample ID:** LCS 440-512770/2-A

**Matrix:** Water

**Analysis Batch:** 512779

| Analyte            | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec. | Limits   |
|--------------------|----------------|---------------|------------------|------|---|-------|----------|
| Sulfide, Dissolved | 0.500          | 0.409         |                  | mg/L |   | 82    | 80 - 120 |

**Lab Sample ID:** LCSD 440-512770/3-A

**Matrix:** Water

**Analysis Batch:** 512779

| Analyte            | Spike<br>Added | LCSD<br>Result | LCSD<br>Qualifier | Unit | D | %Rec. | RPD      | Limit |
|--------------------|----------------|----------------|-------------------|------|---|-------|----------|-------|
| Sulfide, Dissolved | 0.500          | 0.439          |                   | mg/L |   | 88    | 80 - 120 | 7 20  |

**Lab Sample ID:** 440-224340-A-2-B MS

**Matrix:** Water

**Analysis Batch:** 512779

| Analyte            | Sample<br>Result | Sample<br>Qualifier | Spike<br>Added | MS<br>Result | MS<br>Qualifier | Unit | D | %Rec. | Limits   |
|--------------------|------------------|---------------------|----------------|--------------|-----------------|------|---|-------|----------|
| Sulfide, Dissolved | ND               | F1 HF               | 0.500          | 0.355        | HF              | mg/L |   | 71    | 70 - 130 |

**Lab Sample ID:** 440-224340-A-2-C MSD

**Matrix:** Water

**Analysis Batch:** 512779

| Analyte            | Sample<br>Result | Sample<br>Qualifier | Spike<br>Added | MSD<br>Result | MSD<br>Qualifier | Unit | D | %Rec. | RPD      | Limit |
|--------------------|------------------|---------------------|----------------|---------------|------------------|------|---|-------|----------|-------|
| Sulfide, Dissolved | ND               | F1 HF               | 0.500          | 0.302         | F1 HF            | mg/L |   | 60    | 70 - 130 | 16 30 |

**Lab Sample ID:** MB 440-513192/1-A

**Matrix:** Water

**Analysis Batch:** 513202

| Analyte            | MB<br>Result | MB<br>Qualifier | RL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------------|--------------|-----------------|-------|------|---|----------------|----------------|---------|
| Sulfide, Dissolved | ND           |                 | 0.050 | mg/L |   | 11/26/18 16:42 | 11/26/18 17:35 | 1       |

**Lab Sample ID:** LCS 440-513192/2-A

**Matrix:** Water

**Analysis Batch:** 513202

| Analyte            | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec. | Limits   |
|--------------------|----------------|---------------|------------------|------|---|-------|----------|
| Sulfide, Dissolved | 0.500          | 0.468         |                  | mg/L |   | 94    | 80 - 120 |

**Lab Sample ID:** LCSD 440-513192/3-A

**Matrix:** Water

**Analysis Batch:** 513202

| Analyte            | Spike<br>Added | LCSD<br>Result | LCSD<br>Qualifier | Unit | D | %Rec. | RPD      | Limit |
|--------------------|----------------|----------------|-------------------|------|---|-------|----------|-------|
| Sulfide, Dissolved | 0.500          | 0.442          |                   | mg/L |   | 88    | 80 - 120 | 6 20  |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

**Lab Sample ID: 440-224565-2 DU**  
**Matrix: Water**  
**Analysis Batch: 513202**

**Client Sample ID: Grab**  
**Prep Type: Dissolved**  
**Prep Batch: 513192**

| Analyte            | Sample | Sample    | DU     | DU        | RPD  | Limit |    |    |
|--------------------|--------|-----------|--------|-----------|------|-------|----|----|
|                    | Result | Qualifier | Result | Qualifier | Unit | D     |    |    |
| Sulfide, Dissolved | ND     | H HF      | ND     |           | mg/L | D     | NC | 30 |

## Method: SM 5220D - COD

**Lab Sample ID: MB 440-513169/3**  
**Matrix: Water**  
**Analysis Batch: 513169**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

| Analyte                | MB     | MB        | RL | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------|--------|-----------|----|------|---|----------|----------------|---------|
|                        | Result | Qualifier |    |      |   |          |                |         |
| Chemical Oxygen Demand | ND     |           | 20 | mg/L | D |          | 11/26/18 15:13 | 1       |

**Lab Sample ID: LCS 440-513169/4**  
**Matrix: Water**  
**Analysis Batch: 513169**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

| Analyte                | Spike | LCS   | LCS    | Unit | D | %Rec. | Limits   |
|------------------------|-------|-------|--------|------|---|-------|----------|
|                        |       | Added | Result |      |   |       |          |
| Chemical Oxygen Demand | 200   |       | 191    | mg/L | D | 95    | 90 - 110 |

**Lab Sample ID: 440-224866-A-1 MS**  
**Matrix: Water**  
**Analysis Batch: 513169**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

| Analyte                | Sample | Sample    | Spike | MS     | MS        | Unit | D | %Rec. | Limits   |
|------------------------|--------|-----------|-------|--------|-----------|------|---|-------|----------|
|                        | Result | Qualifier | Added | Result | Qualifier |      |   |       |          |
| Chemical Oxygen Demand | 58     |           | 200   | 258    |           | mg/L | D | 100   | 70 - 120 |

**Lab Sample ID: 440-224866-A-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 513169**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

| Analyte                | Sample | Sample    | Spike | MSD    | MSD       | Unit | D | %Rec. | Limits   | RPD | Limit |
|------------------------|--------|-----------|-------|--------|-----------|------|---|-------|----------|-----|-------|
|                        | Result | Qualifier | Added | Result | Qualifier |      |   |       |          |     |       |
| Chemical Oxygen Demand | 58     |           | 200   | 265    |           | mg/L | D | 103   | 70 - 120 | 3   | 15    |

**Lab Sample ID: 440-224866-A-1 DU**  
**Matrix: Water**  
**Analysis Batch: 513169**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

| Analyte                | Sample | Sample    | DU     | DU        | Unit | D | RPD | Limit |
|------------------------|--------|-----------|--------|-----------|------|---|-----|-------|
|                        | Result | Qualifier | Result | Qualifier |      |   |     |       |
| Chemical Oxygen Demand | 58     |           | 61.1   |           | mg/L | D | 5   | 15    |

# QC Association Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## GC/MS VOA

### Analysis Batch: 512264

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 440-224565-2       | Grab                   | Total/NA  | Water  | 8260B  |            |
| MB 440-512264/7    | Method Blank           | Total/NA  | Water  | 8260B  |            |
| LCS 440-512264/5   | Lab Control Sample     | Total/NA  | Water  | 8260B  |            |
| 440-224675-D-2 MS  | Matrix Spike           | Total/NA  | Water  | 8260B  |            |
| 440-224675-D-2 MSD | Matrix Spike Duplicate | Total/NA  | Water  | 8260B  |            |

### Analysis Batch: 512972

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 440-224565-2       | Grab                   | Total/NA  | Water  | 8260B  |            |
| MB 440-512972/4    | Method Blank           | Total/NA  | Water  | 8260B  |            |
| LCS 440-512972/5   | Lab Control Sample     | Total/NA  | Water  | 8260B  |            |
| 440-224522-A-4 MS  | Matrix Spike           | Total/NA  | Water  | 8260B  |            |
| 440-224522-A-4 MSD | Matrix Spike Duplicate | Total/NA  | Water  | 8260B  |            |

### Analysis Batch: 513044

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 440-224565-2 - RA   | Grab                   | Total/NA  | Water  | 8260B  |            |
| MB 440-513044/4     | Method Blank           | Total/NA  | Water  | 8260B  |            |
| LCS 440-513044/5    | Lab Control Sample     | Total/NA  | Water  | 8260B  |            |
| 440-224495-A-13 MS  | Matrix Spike           | Total/NA  | Water  | 8260B  |            |
| 440-224495-A-13 MSD | Matrix Spike Duplicate | Total/NA  | Water  | 8260B  |            |

## GC/MS Semi VOA

### Prep Batch: 512081

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 440-224565-2        | Grab                   | Total/NA  | Water  | 3520C  |            |
| MB 440-512081/1-A   | Method Blank           | Total/NA  | Water  | 3520C  |            |
| LCS 440-512081/2-A  | Lab Control Sample     | Total/NA  | Water  | 3520C  |            |
| LCSD 440-512081/3-A | Lab Control Sample Dup | Total/NA  | Water  | 3520C  |            |

### Prep Batch: 512451

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 440-224565-2        | Grab                   | Total/NA  | Water  | 3520C  |            |
| MB 440-512451/1-A   | Method Blank           | Total/NA  | Water  | 3520C  |            |
| LCS 440-512451/2-A  | Lab Control Sample     | Total/NA  | Water  | 3520C  |            |
| LCSD 440-512451/3-A | Lab Control Sample Dup | Total/NA  | Water  | 3520C  |            |

### Analysis Batch: 512621

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 440-224565-2        | Grab                   | Total/NA  | Water  | 8270C  |            |
| MB 440-512081/1-A   | Method Blank           | Total/NA  | Water  | 8270C  |            |
| LCS 440-512081/2-A  | Lab Control Sample     | Total/NA  | Water  | 8270C  |            |
| LCSD 440-512081/3-A | Lab Control Sample Dup | Total/NA  | Water  | 8270C  |            |

### Analysis Batch: 512653

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix | Method    | Prep Batch |
|--------------------|--------------------|-----------|--------|-----------|------------|
| 440-224565-2       | Grab               | Total/NA  | Water  | 8270C SIM |            |
| MB 440-512451/1-A  | Method Blank       | Total/NA  | Water  | 8270C SIM |            |
| LCS 440-512451/2-A | Lab Control Sample | Total/NA  | Water  | 8270C SIM |            |

TestAmerica Irvine

# QC Association Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## GC/MS Semi VOA (Continued)

### Analysis Batch: 512653 (Continued)

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method    | Prep Batch |
|---------------------|------------------------|-----------|--------|-----------|------------|
| LCSD 440-512451/3-A | Lab Control Sample Dup | Total/NA  | Water  | 8270C SIM | 512451     |

## General Chemistry

### Analysis Batch: 512170

| Lab Sample ID     | Client Sample ID | Prep Type | Matrix | Method       | Prep Batch |
|-------------------|------------------|-----------|--------|--------------|------------|
| 440-224565-2      | Grab             | Total/NA  | Water  | SM 4500 H+ B |            |
| 440-224542-H-1 DU | Duplicate        | Total/NA  | Water  | SM 4500 H+ B |            |

### Prep Batch: 512770

| Lab Sample ID        | Client Sample ID       | Prep Type | Matrix | Method       | Prep Batch |
|----------------------|------------------------|-----------|--------|--------------|------------|
| MB 440-512770/1-A    | Method Blank           | Dissolved | Water  | SM 4500 S2 B |            |
| LCS 440-512770/2-A   | Lab Control Sample     | Dissolved | Water  | SM 4500 S2 B |            |
| LCSD 440-512770/3-A  | Lab Control Sample Dup | Dissolved | Water  | SM 4500 S2 B |            |
| 440-224340-A-2-B MS  | Matrix Spike           | Dissolved | Water  | SM 4500 S2 B |            |
| 440-224340-A-2-C MSD | Matrix Spike Duplicate | Dissolved | Water  | SM 4500 S2 B |            |

### Analysis Batch: 512779

| Lab Sample ID        | Client Sample ID       | Prep Type | Matrix | Method       | Prep Batch |
|----------------------|------------------------|-----------|--------|--------------|------------|
| MB 440-512770/1-A    | Method Blank           | Dissolved | Water  | SM 4500 S2 D | 512770     |
| LCS 440-512770/2-A   | Lab Control Sample     | Dissolved | Water  | SM 4500 S2 D | 512770     |
| LCSD 440-512770/3-A  | Lab Control Sample Dup | Dissolved | Water  | SM 4500 S2 D | 512770     |
| 440-224340-A-2-B MS  | Matrix Spike           | Dissolved | Water  | SM 4500 S2 D | 512770     |
| 440-224340-A-2-C MSD | Matrix Spike Duplicate | Dissolved | Water  | SM 4500 S2 D | 512770     |

### Analysis Batch: 512804

| Lab Sample ID     | Client Sample ID   | Prep Type | Matrix | Method   | Prep Batch |
|-------------------|--------------------|-----------|--------|----------|------------|
| 440-224565-1      | Composite          | Total/NA  | Water  | SM 2540D |            |
| MB 440-512804/1   | Method Blank       | Total/NA  | Water  | SM 2540D |            |
| LCS 440-512804/2  | Lab Control Sample | Total/NA  | Water  | SM 2540D |            |
| 440-224774-A-1 DU | Duplicate          | Total/NA  | Water  | SM 2540D |            |

### Analysis Batch: 513169

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 440-224565-1       | Composite              | Total/NA  | Water  | SM 5220D |            |
| MB 440-513169/3    | Method Blank           | Total/NA  | Water  | SM 5220D |            |
| LCS 440-513169/4   | Lab Control Sample     | Total/NA  | Water  | SM 5220D |            |
| 440-224866-A-1 MS  | Matrix Spike           | Total/NA  | Water  | SM 5220D |            |
| 440-224866-A-1 MSD | Matrix Spike Duplicate | Total/NA  | Water  | SM 5220D |            |
| 440-224866-A-1 DU  | Duplicate              | Total/NA  | Water  | SM 5220D |            |

### Prep Batch: 513192

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method       | Prep Batch |
|---------------------|------------------------|-----------|--------|--------------|------------|
| 440-224565-2        | Grab                   | Dissolved | Water  | SM 4500 S2 B |            |
| MB 440-513192/1-A   | Method Blank           | Dissolved | Water  | SM 4500 S2 B |            |
| LCS 440-513192/2-A  | Lab Control Sample     | Dissolved | Water  | SM 4500 S2 B |            |
| LCSD 440-513192/3-A | Lab Control Sample Dup | Dissolved | Water  | SM 4500 S2 B |            |
| 440-224565-2 DU     | Grab                   | Dissolved | Water  | SM 4500 S2 B |            |

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# QC Association Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## General Chemistry (Continued)

### Analysis Batch: 513202

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method       | Prep Batch |
|---------------------|------------------------|-----------|--------|--------------|------------|
| 440-224565-2        | Grab                   | Dissolved | Water  | SM 4500 S2 D | 513192     |
| MB 440-513192/1-A   | Method Blank           | Dissolved | Water  | SM 4500 S2 D | 513192     |
| LCS 440-513192/2-A  | Lab Control Sample     | Dissolved | Water  | SM 4500 S2 D | 513192     |
| LCSD 440-513192/3-A | Lab Control Sample Dup | Dissolved | Water  | SM 4500 S2 D | 513192     |
| 440-224565-2 DU     | Grab                   | Dissolved | Water  | SM 4500 S2 D | 513192     |

## Field Service / Mobile Lab

### Analysis Batch: 511999

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method         | Prep Batch |
|---------------|------------------|-----------|--------|----------------|------------|
| 440-224565-2  | Grab             | Total/NA  | Water  | Field Sampling |            |

# Definitions/Glossary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description                                |
|-----------|--|
| X         | Surrogate is outside control limits                  |
| F1        | MS and/or MSD Recovery is outside acceptance limits. |

### GC/MS Semi VOA

| Qualifier | Qualifier Description  |
|-----------|--|
| *         | LCS or LCSD is outside acceptance limits.  |
| *         | RPD of the LCS and LCSD exceeds the control limits   |
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### General Chemistry

| Qualifier | Qualifier Description  |
|-----------|--|
| HF        | Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. |
| F1        | MS and/or MSD Recovery is outside acceptance limits.   |
| H         | Sample was prepped or analyzed beyond the specified holding time                                     |

## Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| □              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| California | State Program | 9          | CA ELAP 2706          | 06-30-19        |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte                               |
|-----------------|-------------|--------|---------------------------------------|
| 8260B           |             | Water  | 1,1,2-Trichloro-1,2,2-trifluoroethane |
| 8260B           |             | Water  | m,p-Xylene                            |
| 8260B           |             | Water  | Total Volatile Organic Compounds      |
| 8270C           | 3520C       | Water  | 2-Methylphenol                        |
| 8270C           | 3520C       | Water  | 3-Methylphenol + 4-Methylphenol       |
| 8270C           | 3520C       | Water  | 4-Chloroaniline                       |
| 8270C           | 3520C       | Water  | Benzidine                             |
| 8270C SIM       | 3520C       | Water  | 1,4-Dioxane                           |
| Field Sampling  |             | Water  | Field pH                              |
| Field Sampling  |             | Water  | Field Temperature                     |

## **Chain of Custody Record**

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## Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-224565-1

SDG Number: Whittier

**Login Number:** 224565

**List Source:** TestAmerica Irvine

**List Number:** 1

**Creator:** Soderblom, Tim

| Question   | Answer | Comment     |    |
|--|--------|-------------|----|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | True   |             | 1  |
| The cooler's custody seal, if present, is intact.                                | N/A    | Not present | 2  |
| Sample custody seals, if present, are intact.                                    | N/A    | Not Present | 3  |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |             | 4  |
| Samples were received on ice.  | True   |             | 5  |
| Cooler Temperature is acceptable.  | True   |             | 6  |
| Cooler Temperature is recorded.  | True   |             | 7  |
| COC is present.  | True   |             | 8  |
| COC is filled out in ink and legible.  | True   |             | 9  |
| COC is filled out with all pertinent information.                                | True   |             | 10 |
| Is the Field Sampler's name present on COC?                                      | True   |             | 11 |
| There are no discrepancies between the containers received and the COC.          | True   |             | 12 |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |             | 13 |
| Sample containers have legible labels.   | True   |             | 14 |
| Containers are not broken or leaking.  | True   |             | 15 |
| Sample collection date/times are provided.                                       | True   |             |    |
| Appropriate sample containers are used.  | True   |             |    |
| Sample bottles are completely filled.  | True   |             |    |
| Sample Preservation Verified.  | N/A    |             |    |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |             |    |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | True   |             |    |
| Multiphasic samples are not present.   | True   |             |    |
| Samples do not require splitting or compositing.                                 | True   |             |    |
| Residual Chlorine Checked.   | N/A    |             |    |

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-228243-1

TestAmerica Sample Delivery Group: Omega Chemical

Client Project/Site: Omega Chemical - GWTS Monthly

Revision: 1

For:

Jacob & Hefner Associates P.C.

15375 Barranca Parkway, J-101

Irvine, California 92618

Attn: Trent Henderson

Authorized for release by:

1/16/2019 4:04:15 PM

Danielle Roberts, Senior Project Manager

(949)261-1022

danielle.roberts@testamericainc.com

### LINKS

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The  
Expert

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[www.testamericainc.com](http://www.testamericainc.com)

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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## Sample Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
SDG: Omega Chemical

| Lab Sample ID | Client Sample ID     | Matrix | Collected      | Received       |
|---------------|----------------------|--------|----------------|----------------|
| 440-228243-1  | OC_SP220B_EFF_121818 | Water  | 12/18/18 12:04 | 12/19/18 18:25 |
| 440-228243-2  | OC_SP210_INF_121818  | Water  | 12/18/18 12:10 | 12/19/18 18:25 |
| 440-228243-3  | OC_TB_121818         | Water  | 12/18/18 12:00 | 12/19/18 18:25 |

# Case Narrative

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
SDG: Omega Chemical

## Job ID: 440-228243-1

### Laboratory: TestAmerica Irvine

#### Narrative

#### Job Narrative 440-228243-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 12/19/2018 6:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.9° C.

#### Receipt Exceptions

Project specifies we spike with IPA. LCS/MS/MSD not spiked due to lab oversight. Revised NCM.

#### GC/MS VOA

Method(s) 8260B: The matrix spike and matrix spike duplicate (MS/MSD) precision for analytical batch 440-519016 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected.

Method(s) 8260B: due to analyst oversight, IPA was not spiked in the LCS or MS/MSD. The recovery of IPA is within range in the CCV and it is ND in all samples

(440-228205-B-1 MS) and (440-228205-B-1 MSD)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 3520C\_8270C-SIM-1,4-DXNpreparation batch 440-518885.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Detection Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
SDG: Omega Chemical

**Client Sample ID: OC\_SP220B\_EFF\_121818****Lab Sample ID: 440-228243-1**

| Analyte      | Result | Qualifier | RL   | Unit | Dil Fac | D | Method    | Prep Type |
|--------------|--------|-----------|------|------|---------|---|-----------|-----------|
| Acetone - RA | 17     |           | 10   | ug/L | 1       |   | 8260B     | Total/NA  |
| 1,4-Dioxane  | 10     |           | 0.50 | ug/L | 1       |   | 8270C SIM | Total/NA  |

**Client Sample ID: OC\_SP210\_INF\_121818****Lab Sample ID: 440-228243-2**

| Analyte                               | Result | Qualifier | RL  | Unit | Dil Fac | D | Method | Prep Type |
|---------------------------------------|--------|-----------|-----|------|---------|---|--------|-----------|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 100    |           | 25  | ug/L | 5       |   | 8260B  | Total/NA  |
| 1,1-Dichloroethene                    | 34     |           | 5.0 | ug/L | 5       |   | 8260B  | Total/NA  |
| Chloroform                            | 17     |           | 5.0 | ug/L | 5       |   | 8260B  | Total/NA  |
| Tetrachloroethylene                   | 220    |           | 5.0 | ug/L | 5       |   | 8260B  | Total/NA  |
| Trichloroethene                       | 29     |           | 5.0 | ug/L | 5       |   | 8260B  | Total/NA  |
| Trichlorofluoromethane                | 27     |           | 5.0 | ug/L | 5       |   | 8260B  | Total/NA  |

**Client Sample ID: OC\_TB\_121818****Lab Sample ID: 440-228243-3**

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_SP220B\_EFF\_121818**

**Lab Sample ID: 440-228243-1**

**Matrix: Water**

Date Collected: 12/18/18 12:04

Date Received: 12/19/18 18:25

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte                               | Result | Qualifier | RL   | Unit | D | Prepared       | Analyzed | Dil Fac |
|---------------------------------------|--------|-----------|------|------|---|----------------|----------|---------|
| 1,1,1,2-Tetrachloroethane             | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 1,1,1-Trichloroethane                 | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 1,1,2,2-Tetrachloroethane             | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND     |           | 5.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 1,1,2-Trichloroethane                 | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 1,1-Dichloroethane                    | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 1,1-Dichloroethene                    | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 1,1-Dichloropropene                   | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 1,2,3-Trichlorobenzene                | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 1,2,3-Trichloropropane                | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 1,2,4-Trichlorobenzene                | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 1,2,4-Trimethylbenzene                | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 1,2-Dibromo-3-Chloropropane           | ND     |           | 5.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 1,2-Dibromoethane (EDB)               | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 1,2-Dichlorobenzene                   | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 1,2-Dichloroethane                    | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 1,2-Dichloropropane                   | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 1,3,5-Trimethylbenzene                | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 1,3-Dichlorobenzene                   | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 1,3-Dichloropropane                   | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 1,4-Dichlorobenzene                   | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 2,2-Dichloropropane                   | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 2-Chlorotoluene                       | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| 4-Chlorotoluene                       | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| Benzene                               | ND     |           | 0.50 | ug/L |   | 12/24/18 14:24 |          | 1       |
| Bromobenzene                          | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| Bromochloromethane                    | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| Bromodichloromethane                  | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| Bromoform                             | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| Bromomethane                          | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| Carbon tetrachloride                  | ND     |           | 0.50 | ug/L |   | 12/24/18 14:24 |          | 1       |
| Chlorobenzene                         | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| Chloroethane                          | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| Chloroform                            | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| Chloromethane                         | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| cis-1,2-Dichloroethene                | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| cis-1,3-Dichloropropene               | ND     |           | 0.50 | ug/L |   | 12/24/18 14:24 |          | 1       |
| Dibromochloromethane                  | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| Dibromomethane                        | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| Dichlorodifluoromethane               | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| Ethylbenzene                          | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| Hexachlorobutadiene                   | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| Isopropyl alcohol                     | ND     |           | 250  | ug/L |   | 12/24/18 14:24 |          | 1       |
| Isopropylbenzene                      | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| m,p-Xylene                            | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| Methylene Chloride                    | ND     |           | 5.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| Methyl-t-Butyl Ether (MTBE)           | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| Naphthalene                           | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |
| n-Butylbenzene                        | ND     |           | 1.0  | ug/L |   | 12/24/18 14:24 |          | 1       |

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_SP220B\_EFF\_121818**

**Lab Sample ID: 440-228243-1**

**Matrix: Water**

Date Collected: 12/18/18 12:04

Date Received: 12/19/18 18:25

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                      | Result           | Qualifier        | RL            | Unit | D | Prepared        | Analyzed        | Dil Fac        |
|------------------------------|------------------|------------------|---------------|------|---|-----------------|-----------------|----------------|
| N-Propylbenzene              | ND               |                  | 1.0           | ug/L |   |                 | 12/24/18 14:24  | 1              |
| o-Xylene                     | ND               |                  | 1.0           | ug/L |   |                 | 12/24/18 14:24  | 1              |
| p-Isopropyltoluene           | ND               |                  | 1.0           | ug/L |   |                 | 12/24/18 14:24  | 1              |
| sec-Butylbenzene             | ND               |                  | 1.0           | ug/L |   |                 | 12/24/18 14:24  | 1              |
| Styrene                      | ND               |                  | 1.0           | ug/L |   |                 | 12/24/18 14:24  | 1              |
| tert-Butylbenzene            | ND               |                  | 1.0           | ug/L |   |                 | 12/24/18 14:24  | 1              |
| Tetrachloroethene            | ND               |                  | 1.0           | ug/L |   |                 | 12/24/18 14:24  | 1              |
| Toluene                      | ND               |                  | 1.0           | ug/L |   |                 | 12/24/18 14:24  | 1              |
| trans-1,2-Dichloroethene     | ND               |                  | 1.0           | ug/L |   |                 | 12/24/18 14:24  | 1              |
| trans-1,3-Dichloropropene    | ND               |                  | 0.50          | ug/L |   |                 | 12/24/18 14:24  | 1              |
| Trichloroethene              | ND               |                  | 1.0           | ug/L |   |                 | 12/24/18 14:24  | 1              |
| Trichlorofluoromethane       | ND               |                  | 1.0           | ug/L |   |                 | 12/24/18 14:24  | 1              |
| Vinyl chloride               | ND               |                  | 0.50          | ug/L |   |                 | 12/24/18 14:24  | 1              |
| <b>Surrogate</b>             | <b>%Recovery</b> | <b>Qualifier</b> | <b>Limits</b> |      |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| 1,2-Dichloroethane-d4 (Surr) | 141              | X                | 70 - 130      |      |   |                 | 12/24/18 14:24  | 1              |
| 4-Bromofluorobenzene (Surr)  | 92               |                  | 80 - 120      |      |   |                 | 12/24/18 14:24  | 1              |
| Dibromofluoromethane (Surr)  | 122              |                  | 76 - 132      |      |   |                 | 12/24/18 14:24  | 1              |
| Toluene-d8 (Surr)            | 90               |                  | 80 - 128      |      |   |                 | 12/24/18 14:24  | 1              |

## Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

| Analyte                      | Result           | Qualifier        | RL            | Unit | D | Prepared        | Analyzed        | Dil Fac        |
|------------------------------|------------------|------------------|---------------|------|---|-----------------|-----------------|----------------|
| Acetone                      | 17               |                  | 10            | ug/L |   |                 | 12/26/18 09:04  | 1              |
| <b>Surrogate</b>             | <b>%Recovery</b> | <b>Qualifier</b> | <b>Limits</b> |      |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| 1,2-Dichloroethane-d4 (Surr) | 112              |                  | 70 - 130      |      |   |                 | 12/26/18 09:04  | 1              |
| 4-Bromofluorobenzene (Surr)  | 101              |                  | 80 - 120      |      |   |                 | 12/26/18 09:04  | 1              |
| Dibromofluoromethane (Surr)  | 101              |                  | 76 - 132      |      |   |                 | 12/26/18 09:04  | 1              |
| Toluene-d8 (Surr)            | 99               |                  | 80 - 128      |      |   |                 | 12/26/18 09:04  | 1              |

## Method: 8270C SIM - 1,4 Dioxane by SIM

| Analyte               | Result           | Qualifier        | RL            | Unit | D | Prepared        | Analyzed        | Dil Fac        |
|-----------------------|------------------|------------------|---------------|------|---|-----------------|-----------------|----------------|
| 1,4-Dioxane           | 10               |                  | 0.50          | ug/L |   | 12/22/18 08:56  | 12/24/18 17:44  | 1              |
| <b>Surrogate</b>      | <b>%Recovery</b> | <b>Qualifier</b> | <b>Limits</b> |      |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| 1,4-Dioxane-d8 (Surr) | 40               |                  | 27 - 120      |      |   | 12/22/18 08:56  | 12/24/18 17:44  | 1              |

**Client Sample ID: OC\_SP210\_INF\_121818**

**Lab Sample ID: 440-228243-2**

**Matrix: Water**

Date Collected: 12/18/18 12:10

Date Received: 12/19/18 18:25

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte                               | Result | Qualifier | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|--------|-----------|-----|------|---|----------|----------------|---------|
| 1,1,1,2-Tetrachloroethane             | ND     |           | 5.0 | ug/L |   |          | 12/24/18 14:52 | 5       |
| 1,1,1-Trichloroethane                 | ND     |           | 5.0 | ug/L |   |          | 12/24/18 14:52 | 5       |
| 1,1,2,2-Tetrachloroethane             | ND     |           | 5.0 | ug/L |   |          | 12/24/18 14:52 | 5       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 100    |           | 25  | ug/L |   |          | 12/24/18 14:52 | 5       |
| 1,1,2-Trichloroethane                 | ND     |           | 5.0 | ug/L |   |          | 12/24/18 14:52 | 5       |
| 1,1-Dichloroethane                    | ND     |           | 5.0 | ug/L |   |          | 12/24/18 14:52 | 5       |
| 1,1-Dichloroethene                    | 34     |           | 5.0 | ug/L |   |          | 12/24/18 14:52 | 5       |

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_SP210\_INF\_121818**

**Lab Sample ID: 440-228243-2**

**Matrix: Water**

**Date Collected: 12/18/18 12:10**

**Date Received: 12/19/18 18:25**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

| Analyte                     | Result    | Qualifier | RL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|------|------|---|----------|----------------|---------|
| 1,1-Dichloropropene         | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| 1,2,3-Trichlorobenzene      | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| 1,2,3-Trichloropropane      | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| 1,2,4-Trichlorobenzene      | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| 1,2,4-Trimethylbenzene      | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| 1,2-Dibromo-3-Chloropropane | ND        |           | 25   | ug/L |   |          | 12/24/18 14:52 | 5       |
| 1,2-Dibromoethane (EDB)     | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| 1,2-Dichlorobenzene         | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| 1,2-Dichloroethane          | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| 1,2-Dichloropropane         | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| 1,3,5-Trimethylbenzene      | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| 1,3-Dichlorobenzene         | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| 1,3-Dichloropropane         | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| 1,4-Dichlorobenzene         | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| 2,2-Dichloropropane         | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| 2-Chlorotoluene             | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| 4-Chlorotoluene             | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| Acetone                     | ND        |           | 50   | ug/L |   |          | 12/24/18 14:52 | 5       |
| Benzene                     | ND        |           | 2.5  | ug/L |   |          | 12/24/18 14:52 | 5       |
| Bromobenzene                | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| Bromochloromethane          | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| Bromodichloromethane        | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| Bromoform                   | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| Bromomethane                | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| Carbon tetrachloride        | ND        |           | 2.5  | ug/L |   |          | 12/24/18 14:52 | 5       |
| Chlorobenzene               | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| Chloroethane                | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| <b>Chloroform</b>           | <b>17</b> |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| Chloromethane               | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| cis-1,2-Dichloroethene      | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| cis-1,3-Dichloropropene     | ND        |           | 2.5  | ug/L |   |          | 12/24/18 14:52 | 5       |
| Dibromochloromethane        | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| Dibromomethane              | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| Dichlorodifluoromethane     | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| Ethylbenzene                | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| Hexachlorobutadiene         | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| Isopropyl alcohol           | ND        |           | 1300 | ug/L |   |          | 12/24/18 14:52 | 5       |
| Isopropylbenzene            | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| m,p-Xylene                  | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| Methylene Chloride          | ND        |           | 25   | ug/L |   |          | 12/24/18 14:52 | 5       |
| Methyl-t-Butyl Ether (MTBE) | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| Naphthalene                 | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| n-Butylbenzene              | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| N-Propylbenzene             | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| o-Xylene                    | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| p-Isopropyltoluene          | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| sec-Butylbenzene            | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| Styrene                     | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |
| tert-Butylbenzene           | ND        |           | 5.0  | ug/L |   |          | 12/24/18 14:52 | 5       |

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_SP210\_INF\_121818**

**Lab Sample ID: 440-228243-2**

**Matrix: Water**

Date Collected: 12/18/18 12:10  
 Date Received: 12/19/18 18:25

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

| Analyte                      | Result | Qualifier        | RL               | Unit          | D | Prepared        | Analyzed        | Dil Fac        |
|------------------------------|--------|------------------|------------------|---------------|---|-----------------|-----------------|----------------|
| Tetrachloroethene            | 220    |                  | 5.0              | ug/L          |   |                 | 12/24/18 14:52  | 5              |
| Toluene                      | ND     |                  | 5.0              | ug/L          |   |                 | 12/24/18 14:52  | 5              |
| trans-1,2-Dichloroethene     | ND     |                  | 5.0              | ug/L          |   |                 | 12/24/18 14:52  | 5              |
| trans-1,3-Dichloropropene    | ND     |                  | 2.5              | ug/L          |   |                 | 12/24/18 14:52  | 5              |
| Trichloroethene              | 29     |                  | 5.0              | ug/L          |   |                 | 12/24/18 14:52  | 5              |
| Trichlorofluoromethane       | 27     |                  | 5.0              | ug/L          |   |                 | 12/24/18 14:52  | 5              |
| Vinyl chloride               | ND     |                  | 2.5              | ug/L          |   |                 | 12/24/18 14:52  | 5              |
| <b>Surrogate</b>             |        | <b>%Recovery</b> | <b>Qualifier</b> | <b>Limits</b> |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| 1,2-Dichloroethane-d4 (Surr) | 132    | X                |                  | 70 - 130      |   |                 | 12/24/18 14:52  | 5              |
| 4-Bromofluorobenzene (Surr)  | 92     |                  |                  | 80 - 120      |   |                 | 12/24/18 14:52  | 5              |
| Dibromofluoromethane (Surr)  | 120    |                  |                  | 76 - 132      |   |                 | 12/24/18 14:52  | 5              |
| Toluene-d8 (Surr)            | 91     |                  |                  | 80 - 128      |   |                 | 12/24/18 14:52  | 5              |

**Client Sample ID: OC\_TB\_121818**

**Lab Sample ID: 440-228243-3**

**Matrix: Water**

Date Collected: 12/18/18 12:00  
 Date Received: 12/19/18 18:25

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte                               | Result | Qualifier | RL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|--------|-----------|------|------|---|----------|----------------|---------|
| 1,1,1,2-Tetrachloroethane             | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 1,1,1-Trichloroethane                 | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 1,1,2,2-Tetrachloroethane             | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND     |           | 5.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 1,1,2-Trichloroethane                 | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 1,1-Dichloroethane                    | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 1,1-Dichloroethene                    | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 1,1-Dichloropropene                   | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 1,2,3-Trichlorobenzene                | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 1,2,3-Trichloropropane                | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 1,2,4-Trichlorobenzene                | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 1,2,4-Trimethylbenzene                | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 1,2-Dibromo-3-Chloropropane           | ND     |           | 5.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 1,2-Dibromoethane (EDB)               | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 1,2-Dichlorobenzene                   | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 1,2-Dichloroethane                    | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 1,2-Dichloropropane                   | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 1,3,5-Trimethylbenzene                | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 1,3-Dichlorobenzene                   | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 1,3-Dichloropropane                   | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 1,4-Dichlorobenzene                   | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 2,2-Dichloropropane                   | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 2-Chlorotoluene                       | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| 4-Chlorotoluene                       | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| Acetone                               | ND     |           | 10   | ug/L |   |          | 12/24/18 15:20 | 1       |
| Benzene                               | ND     |           | 0.50 | ug/L |   |          | 12/24/18 15:20 | 1       |
| Bromobenzene                          | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| Bromochloromethane                    | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| Bromodichloromethane                  | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |
| Bromoform                             | ND     |           | 1.0  | ug/L |   |          | 12/24/18 15:20 | 1       |

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_TB\_121818**

Date Collected: 12/18/18 12:00

Date Received: 12/19/18 18:25

**Lab Sample ID: 440-228243-3**

Matrix: Water

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

| Analyte                     | Result | Qualifier | RL   | Unit | D | Prepared       | Analyzed | Dil Fac |
|-----------------------------|--------|-----------|------|------|---|----------------|----------|---------|
| Bromomethane                | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| Carbon tetrachloride        | ND     |           | 0.50 | ug/L |   | 12/24/18 15:20 |          | 1       |
| Chlorobenzene               | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| Chloroethane                | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| Chloroform                  | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| Chloromethane               | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| cis-1,2-Dichloroethene      | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| cis-1,3-Dichloropropene     | ND     |           | 0.50 | ug/L |   | 12/24/18 15:20 |          | 1       |
| Dibromochloromethane        | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| Dibromomethane              | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| Dichlorodifluoromethane     | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| Ethylbenzene                | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| Hexachlorobutadiene         | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| Isopropyl alcohol           | ND     |           | 250  | ug/L |   | 12/24/18 15:20 |          | 1       |
| Isopropylbenzene            | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| m,p-Xylene                  | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| Methylene Chloride          | ND     |           | 5.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| Methyl-t-Butyl Ether (MTBE) | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| Naphthalene                 | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| n-Butylbenzene              | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| N-Propylbenzene             | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| o-Xylene                    | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| p-Isopropyltoluene          | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| sec-Butylbenzene            | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| Styrene                     | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| tert-Butylbenzene           | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| Tetrachloroethene           | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| Toluene                     | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| trans-1,2-Dichloroethene    | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| trans-1,3-Dichloropropene   | ND     |           | 0.50 | ug/L |   | 12/24/18 15:20 |          | 1       |
| Trichloroethene             | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| Trichlorofluoromethane      | ND     |           | 1.0  | ug/L |   | 12/24/18 15:20 |          | 1       |
| Vinyl chloride              | ND     |           | 0.50 | ug/L |   | 12/24/18 15:20 |          | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 139       | X         | 70 - 130 |          | 12/24/18 15:20 | 1       |
| 4-Bromofluorobenzene (Surr)  | 97        |           | 80 - 120 |          | 12/24/18 15:20 | 1       |
| Dibromofluoromethane (Surr)  | 120       |           | 76 - 132 |          | 12/24/18 15:20 | 1       |
| Toluene-d8 (Surr)            | 91        |           | 80 - 128 |          | 12/24/18 15:20 | 1       |

# Surrogate Summary

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID      | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                 |                  |                 |
|--------------------|------------------------|--|-----------------|------------------|-----------------|
|                    |                        | DCA<br>(70-130)                                | BFB<br>(80-120) | DBFM<br>(76-132) | TOL<br>(80-128) |
| 440-228135-A-2 MS  | Matrix Spike           | 116  | 83              | 102              | 94              |
| 440-228135-A-2 MSD | Matrix Spike Duplicate | 113  | 90              | 101              | 93              |
| 440-228205-B-1 MS  | Matrix Spike           | 125  | 86              | 116              | 87              |
| 440-228205-B-1 MSD | Matrix Spike Duplicate | 122  | 89              | 117              | 87              |
| 440-228243-1       | OC_SP220B_EFF_121818   | 141 X  | 92              | 122              | 90              |
| 440-228243-1 - RA  | OC_SP220B_EFF_121818   | 112  | 101             | 101              | 99              |
| 440-228243-2       | OC_SP210_INF_121818    | 132 X  | 92              | 120              | 91              |
| 440-228243-3       | OC_TB_121818           | 139 X  | 97              | 120              | 91              |
| LCS 440-519016/5   | Lab Control Sample     | 117  | 91              | 110              | 87              |
| LCS 440-519214/5   | Lab Control Sample     | 119  | 96              | 104              | 94              |
| MB 440-519016/4    | Method Blank           | 130  | 95              | 117              | 89              |
| MB 440-519214/4    | Method Blank           | 113  | 99              | 102              | 98              |

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)  
 BFB = 4-Bromofluorobenzene (Surr)  
 DBFM = Dibromofluoromethane (Surr)  
 TOL = Toluene-d8 (Surr)

## Method: 8270C SIM - 1,4 Dioxane by SIM

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID       | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |  |  |
|---------------------|------------------------|--|--|--|
|                     |                        | DXE<br>(27-120)                                |  |  |
| 440-228243-1        | OC_SP220B_EFF_121818   | 40   |  |  |
| LCS 440-518885/2-A  | Lab Control Sample     | 38   |  |  |
| LCSD 440-518885/3-A | Lab Control Sample Dup | 40   |  |  |
| MB 440-518885/1-A   | Method Blank           | 43   |  |  |

### Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

## Method Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
SDG: Omega Chemical

| Method    | Method Description                    | Protocol | Laboratory |
|-----------|---------------------------------------|----------|------------|
| 8260B     | Volatile Organic Compounds (GC/MS)    | SW846    | TAL IRV    |
| 8270C SIM | 1,4 Dioxane by SIM                    | SW846    | TAL IRV    |
| 3520C     | Liquid-Liquid Extraction (Continuous) | SW846    | TAL IRV    |
| 5030B     | Purge and Trap                        | SW846    | TAL IRV    |

### Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

# Lab Chronicle

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
 SDG: Omega Chemical

**Client Sample ID: OC\_SP220B\_EFF\_121818**

**Lab Sample ID: 440-228243-1**

**Matrix: Water**

**Date Collected: 12/18/18 12:04**

**Date Received: 12/19/18 18:25**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260B        | RA  | 1          | 10 mL          | 10 mL        | 519214       | 12/26/18 09:04       | RM      | TAL IRV |
| Total/NA  | Analysis   | 8260B        |     | 1          | 10 mL          | 10 mL        | 519016       | 12/24/18 14:24       | WC      | TAL IRV |
| Total/NA  | Prep       | 3520C        |     |            | 1000 mL        | 1.0 mL       | 518885       | 12/22/18 08:56       | JAA     | TAL IRV |
| Total/NA  | Analysis   | 8270C SIM    |     | 1          |                |              | 519028       | 12/24/18 17:44       | P1P     | TAL IRV |

**Client Sample ID: OC\_SP210\_INF\_121818**

**Lab Sample ID: 440-228243-2**

**Matrix: Water**

**Date Collected: 12/18/18 12:10**

**Date Received: 12/19/18 18:25**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260B        |     | 5          | 10 mL          | 10 mL        | 519016       | 12/24/18 14:52       | WC      | TAL IRV |

**Client Sample ID: OC\_TB\_121818**

**Lab Sample ID: 440-228243-3**

**Matrix: Water**

**Date Collected: 12/18/18 12:00**

**Date Received: 12/19/18 18:25**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260B        |     | 1          | 10 mL          | 10 mL        | 519016       | 12/24/18 15:20       | WC      | TAL IRV |

## Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 440-519016/4**

**Matrix: Water**

**Analysis Batch: 519016**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

| Analyte                               | MB Result | MB Qualifier | RL   | Unit | D | Prepared       | Analyzed | Dil Fac |
|---------------------------------------|-----------|--------------|------|------|---|----------------|----------|---------|
| 1,1,1,2-Tetrachloroethane             | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 1,1,1-Trichloroethane                 | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 1,1,2,2-Tetrachloroethane             | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND        |              | 5.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 1,1,2-Trichloroethane                 | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 1,1-Dichloroethane                    | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 1,1-Dichloroethene                    | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 1,1-Dichloropropene                   | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 1,2,3-Trichlorobenzene                | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 1,2,3-Trichloropropane                | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 1,2,4-Trichlorobenzene                | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 1,2,4-Trimethylbenzene                | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 1,2-Dibromo-3-Chloropropane           | ND        |              | 5.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 1,2-Dibromoethane (EDB)               | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 1,2-Dichlorobenzene                   | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 1,2-Dichloroethane                    | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 1,2-Dichloropropane                   | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 1,3,5-Trimethylbenzene                | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 1,3-Dichlorobenzene                   | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 1,3-Dichloropropane                   | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 1,4-Dichlorobenzene                   | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 2,2-Dichloropropane                   | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 2-Chlorotoluene                       | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| 4-Chlorotoluene                       | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| Acetone                               | ND        |              | 10   | ug/L |   | 12/24/18 08:21 |          | 1       |
| Benzene                               | ND        |              | 0.50 | ug/L |   | 12/24/18 08:21 |          | 1       |
| Bromobenzene                          | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| Bromochloromethane                    | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| Bromodichloromethane                  | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| Bromoform                             | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| Bromomethane                          | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| Carbon tetrachloride                  | ND        |              | 0.50 | ug/L |   | 12/24/18 08:21 |          | 1       |
| Chlorobenzene                         | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| Chloroethane                          | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| Chloroform                            | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| Chloromethane                         | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| cis-1,2-Dichloroethene                | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| cis-1,3-Dichloropropene               | ND        |              | 0.50 | ug/L |   | 12/24/18 08:21 |          | 1       |
| Dibromochloromethane                  | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| Dibromomethane                        | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| Dichlorodifluoromethane               | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| Ethylbenzene                          | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| Hexachlorobutadiene                   | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| Isopropyl alcohol                     | ND        |              | 250  | ug/L |   | 12/24/18 08:21 |          | 1       |
| Isopropylbenzene                      | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| m,p-Xylene                            | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| Methylene Chloride                    | ND        |              | 5.0  | ug/L |   | 12/24/18 08:21 |          | 1       |
| Methyl-t-Butyl Ether (MTBE)           | ND        |              | 1.0  | ug/L |   | 12/24/18 08:21 |          | 1       |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 440-519016/4**

**Matrix: Water**

**Analysis Batch: 519016**

| Analyte                   | MB     | MB        | Result | Qualifier | RL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------------|--------|-----------|--------|-----------|------|------|---|----------|----------------|---------|
|                           | Result | Qualifier |        |           |      |      |   |          |                |         |
| Naphthalene               | ND     |           |        |           | 1.0  | ug/L |   |          | 12/24/18 08:21 | 1       |
| n-Butylbenzene            | ND     |           |        |           | 1.0  | ug/L |   |          | 12/24/18 08:21 | 1       |
| N-Propylbenzene           | ND     |           |        |           | 1.0  | ug/L |   |          | 12/24/18 08:21 | 1       |
| o-Xylene                  | ND     |           |        |           | 1.0  | ug/L |   |          | 12/24/18 08:21 | 1       |
| p-Isopropyltoluene        | ND     |           |        |           | 1.0  | ug/L |   |          | 12/24/18 08:21 | 1       |
| sec-Butylbenzene          | ND     |           |        |           | 1.0  | ug/L |   |          | 12/24/18 08:21 | 1       |
| Styrene                   | ND     |           |        |           | 1.0  | ug/L |   |          | 12/24/18 08:21 | 1       |
| tert-Butylbenzene         | ND     |           |        |           | 1.0  | ug/L |   |          | 12/24/18 08:21 | 1       |
| Tetrachloroethene         | ND     |           |        |           | 1.0  | ug/L |   |          | 12/24/18 08:21 | 1       |
| Toluene                   | ND     |           |        |           | 1.0  | ug/L |   |          | 12/24/18 08:21 | 1       |
| trans-1,2-Dichloroethene  | ND     |           |        |           | 1.0  | ug/L |   |          | 12/24/18 08:21 | 1       |
| trans-1,3-Dichloropropene | ND     |           |        |           | 0.50 | ug/L |   |          | 12/24/18 08:21 | 1       |
| Trichloroethene           | ND     |           |        |           | 1.0  | ug/L |   |          | 12/24/18 08:21 | 1       |
| Trichlorofluoromethane    | ND     |           |        |           | 1.0  | ug/L |   |          | 12/24/18 08:21 | 1       |
| Vinyl chloride            | ND     |           |        |           | 0.50 | ug/L |   |          | 12/24/18 08:21 | 1       |

| Surrogate                    | MB     | MB        | %Recovery | Qualifier | Limits |  | Prepared | Analyzed       | Dil Fac |
|------------------------------|--------|-----------|-----------|-----------|--------|--|----------|----------------|---------|
|                              | Result | Qualifier |           |           |        |  |          |                |         |
| 1,2-Dichloroethane-d4 (Surr) | 130    |           | 70 - 130  |           |        |  |          | 12/24/18 08:21 | 1       |
| 4-Bromofluorobenzene (Surr)  | 95     |           | 80 - 120  |           |        |  |          | 12/24/18 08:21 | 1       |
| Dibromofluoromethane (Surr)  | 117    |           | 76 - 132  |           |        |  |          | 12/24/18 08:21 | 1       |
| Toluene-d8 (Surr)            | 89     |           | 80 - 128  |           |        |  |          | 12/24/18 08:21 | 1       |

**Lab Sample ID: LCS 440-519016/5**

**Matrix: Water**

**Analysis Batch: 519016**

| Analyte                               | Spike Added | LCS    | LCS       | Unit | D | %Rec | Limits   |
|---------------------------------------|-------------|--------|-----------|------|---|------|----------|
|                                       |             | Result | Qualifier |      |   |      |          |
| 1,1,1,2-Tetrachloroethane             | 25.0        | 27.6   |           | ug/L |   | 110  | 60 - 141 |
| 1,1,1-Trichloroethane                 | 25.0        | 28.8   |           | ug/L |   | 115  | 70 - 130 |
| 1,1,2,2-Tetrachloroethane             | 25.0        | 22.4   |           | ug/L |   | 89   | 63 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 25.0        | 23.9   |           | ug/L |   | 96   | 60 - 140 |
| 1,1,2-Trichloroethane                 | 25.0        | 23.0   |           | ug/L |   | 92   | 70 - 130 |
| 1,1-Dichloroethane                    | 25.0        | 23.3   |           | ug/L |   | 93   | 64 - 130 |
| 1,1-Dichloroethene                    | 25.0        | 22.7   |           | ug/L |   | 91   | 70 - 130 |
| 1,1-Dichloropropene                   | 25.0        | 23.6   |           | ug/L |   | 95   | 70 - 130 |
| 1,2,3-Trichlorobenzene                | 25.0        | 23.8   |           | ug/L |   | 95   | 60 - 140 |
| 1,2,3-Trichloropropane                | 25.0        | 24.3   |           | ug/L |   | 97   | 63 - 130 |
| 1,2,4-Trichlorobenzene                | 25.0        | 23.1   |           | ug/L |   | 92   | 60 - 140 |
| 1,2,4-Trimethylbenzene                | 25.0        | 23.0   |           | ug/L |   | 92   | 70 - 135 |
| 1,2-Dibromo-3-Chloropropane           | 25.0        | 28.4   |           | ug/L |   | 114  | 52 - 140 |
| 1,2-Dibromoethane (EDB)               | 25.0        | 24.2   |           | ug/L |   | 97   | 70 - 130 |
| 1,2-Dichlorobenzene                   | 25.0        | 24.3   |           | ug/L |   | 97   | 70 - 130 |
| 1,2-Dichloroethane                    | 25.0        | 29.7   |           | ug/L |   | 119  | 57 - 138 |
| 1,2-Dichloropropane                   | 25.0        | 23.3   |           | ug/L |   | 93   | 67 - 130 |
| 1,3,5-Trimethylbenzene                | 25.0        | 22.5   |           | ug/L |   | 90   | 70 - 136 |
| 1,3-Dichlorobenzene                   | 25.0        | 23.9   |           | ug/L |   | 95   | 70 - 130 |
| 1,3-Dichloropropane                   | 25.0        | 22.9   |           | ug/L |   | 92   | 70 - 130 |

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-519016/5**

**Matrix: Water**

**Analysis Batch: 519016**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

| Analyte                     | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec.    | Limits |
|-----------------------------|----------------|---------------|------------------|------|---|------|----------|--------|
| 1,4-Dichlorobenzene         | 25.0           | 23.7          |                  | ug/L |   | 95   | 70 - 130 |        |
| 2,2-Dichloropropane         | 25.0           | 27.7          |                  | ug/L |   | 111  | 68 - 141 |        |
| 2-Chlorotoluene             | 25.0           | 22.3          |                  | ug/L |   | 89   | 70 - 130 |        |
| 4-Chlorotoluene             | 25.0           | 22.9          |                  | ug/L |   | 92   | 70 - 130 |        |
| Acetone                     | 25.0           | 31.3          |                  | ug/L |   | 125  | 10 - 150 |        |
| Benzene                     | 25.0           | 22.0          |                  | ug/L |   | 88   | 68 - 130 |        |
| Bromobenzene                | 25.0           | 22.1          |                  | ug/L |   | 88   | 70 - 130 |        |
| Bromochloromethane          | 25.0           | 28.6          |                  | ug/L |   | 114  | 70 - 130 |        |
| Bromodichloromethane        | 25.0           | 28.9          |                  | ug/L |   | 116  | 70 - 132 |        |
| Bromoform                   | 25.0           | 28.5          |                  | ug/L |   | 114  | 60 - 148 |        |
| Bromomethane                | 25.0           | 27.3          |                  | ug/L |   | 109  | 64 - 139 |        |
| Carbon tetrachloride        | 25.0           | 31.2          |                  | ug/L |   | 125  | 60 - 150 |        |
| Chlorobenzene               | 25.0           | 22.2          |                  | ug/L |   | 89   | 70 - 130 |        |
| Chloroethane                | 25.0           | 24.7          |                  | ug/L |   | 99   | 64 - 135 |        |
| Chloroform                  | 25.0           | 25.8          |                  | ug/L |   | 103  | 70 - 130 |        |
| Chloromethane               | 25.0           | 22.7          |                  | ug/L |   | 91   | 47 - 140 |        |
| cis-1,2-Dichloroethene      | 25.0           | 24.6          |                  | ug/L |   | 98   | 70 - 133 |        |
| cis-1,3-Dichloropropene     | 25.0           | 24.7          |                  | ug/L |   | 99   | 70 - 133 |        |
| Dibromochloromethane        | 25.0           | 29.8          |                  | ug/L |   | 119  | 69 - 145 |        |
| Dibromomethane              | 25.0           | 28.8          |                  | ug/L |   | 115  | 70 - 130 |        |
| Dichlorodifluoromethane     | 25.0           | 26.3          |                  | ug/L |   | 105  | 29 - 150 |        |
| Ethylbenzene                | 25.0           | 22.7          |                  | ug/L |   | 91   | 70 - 130 |        |
| Hexachlorobutadiene         | 25.0           | 20.7          |                  | ug/L |   | 83   | 10 - 150 |        |
| Isopropylbenzene            | 25.0           | 24.2          |                  | ug/L |   | 97   | 70 - 136 |        |
| m,p-Xylene                  | 25.0           | 23.3          |                  | ug/L |   | 93   | 70 - 130 |        |
| Methylene Chloride          | 25.0           | 22.0          |                  | ug/L |   | 88   | 52 - 130 |        |
| Methyl-t-Butyl Ether (MTBE) | 25.0           | 24.2          |                  | ug/L |   | 97   | 63 - 131 |        |
| Naphthalene                 | 25.0           | 23.7          |                  | ug/L |   | 95   | 60 - 140 |        |
| n-Butylbenzene              | 25.0           | 22.2          |                  | ug/L |   | 89   | 65 - 150 |        |
| N-Propylbenzene             | 25.0           | 21.7          |                  | ug/L |   | 87   | 67 - 139 |        |
| o-Xylene                    | 25.0           | 24.2          |                  | ug/L |   | 97   | 70 - 130 |        |
| p-Isopropyltoluene          | 25.0           | 22.9          |                  | ug/L |   | 92   | 70 - 132 |        |
| sec-Butylbenzene            | 25.0           | 21.3          |                  | ug/L |   | 85   | 70 - 138 |        |
| Styrene                     | 25.0           | 22.8          |                  | ug/L |   | 91   | 70 - 134 |        |
| tert-Butylbenzene           | 25.0           | 22.4          |                  | ug/L |   | 89   | 70 - 130 |        |
| Tetrachloroethene           | 25.0           | 21.6          |                  | ug/L |   | 87   | 70 - 130 |        |
| Toluene                     | 25.0           | 22.1          |                  | ug/L |   | 89   | 70 - 130 |        |
| trans-1,2-Dichloroethene    | 25.0           | 23.1          |                  | ug/L |   | 92   | 70 - 130 |        |
| trans-1,3-Dichloropropene   | 25.0           | 24.5          |                  | ug/L |   | 98   | 70 - 132 |        |
| Trichloroethene             | 25.0           | 24.8          |                  | ug/L |   | 99   | 70 - 130 |        |
| Trichlorofluoromethane      | 25.0           | 30.6          |                  | ug/L |   | 123  | 60 - 150 |        |
| Vinyl chloride              | 25.0           | 25.3          |                  | ug/L |   | 101  | 59 - 133 |        |

| Surrogate                    | LCS<br>%Recovery | LCS<br>Qualifier | Limits   |
|------------------------------|------------------|------------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 117              |                  | 70 - 130 |
| 4-Bromofluorobenzene (Surr)  | 91               |                  | 80 - 120 |
| Dibromofluoromethane (Surr)  | 110              |                  | 76 - 132 |
| Toluene-d8 (Surr)            | 87               |                  | 80 - 128 |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
 SDG: Omega Chemical

**Lab Sample ID: 440-228205-B-1 MS**

**Matrix: Water**

**Analysis Batch: 519016**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

| Analyte                               | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |    |
|---------------------------------------|---------------|------------------|-------------|-----------|--------------|------|---|------|--------------|----|
| 1,1,1,2-Tetrachloroethane             | ND            |                  | 25.0        | 29.7      |              | ug/L |   | 119  | 60 - 149     | 5  |
| 1,1,1-Trichloroethane                 | ND            |                  | 25.0        | 26.7      |              | ug/L |   | 107  | 70 - 130     | 6  |
| 1,1,2,2-Tetrachloroethane             | ND            |                  | 25.0        | 25.0      |              | ug/L |   | 100  | 63 - 130     | 7  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND            |                  | 25.0        | 22.1      |              | ug/L |   | 89   | 60 - 140     | 8  |
| 1,1,2-Trichloroethane                 | ND            |                  | 25.0        | 25.7      |              | ug/L |   | 103  | 70 - 130     | 9  |
| 1,1-Dichloroethane                    | ND            |                  | 25.0        | 23.2      |              | ug/L |   | 93   | 65 - 130     | 10 |
| 1,1-Dichloroethene                    | ND            |                  | 25.0        | 21.3      |              | ug/L |   | 84   | 70 - 130     | 11 |
| 1,1-Dichloropropene                   | ND            |                  | 25.0        | 21.9      |              | ug/L |   | 88   | 64 - 130     | 12 |
| 1,2,3-Trichlorobenzene                | ND            |                  | 25.0        | 28.4      |              | ug/L |   | 114  | 60 - 140     | 13 |
| 1,2,3-Trichloropropane                | ND            |                  | 25.0        | 27.5      |              | ug/L |   | 110  | 60 - 130     | 14 |
| 1,2,4-Trichlorobenzene                | ND            |                  | 25.0        | 26.5      |              | ug/L |   | 106  | 60 - 140     | 15 |
| 1,2,4-Trimethylbenzene                | ND            |                  | 25.0        | 22.3      |              | ug/L |   | 89   | 70 - 130     |    |
| 1,2-Dibromo-3-Chloropropane           | ND F1         |                  | 25.0        | 36.1      | F1           | ug/L |   | 144  | 48 - 140     |    |
| 1,2-Dibromoethane (EDB)               | ND            |                  | 25.0        | 26.7      |              | ug/L |   | 107  | 70 - 131     |    |
| 1,2-Dichlorobenzene                   | ND            |                  | 25.0        | 25.2      |              | ug/L |   | 101  | 70 - 130     |    |
| 1,2-Dichloroethane                    | ND            |                  | 25.0        | 32.6      |              | ug/L |   | 128  | 56 - 146     |    |
| 1,2-Dichloropropane                   | ND            |                  | 25.0        | 24.4      |              | ug/L |   | 98   | 69 - 130     |    |
| 1,3,5-Trimethylbenzene                | ND            |                  | 25.0        | 22.2      |              | ug/L |   | 89   | 70 - 130     |    |
| 1,3-Dichlorobenzene                   | ND            |                  | 25.0        | 23.9      |              | ug/L |   | 96   | 70 - 130     |    |
| 1,3-Dichloropropane                   | ND            |                  | 25.0        | 24.6      |              | ug/L |   | 98   | 70 - 130     |    |
| 1,4-Dichlorobenzene                   | ND            |                  | 25.0        | 24.3      |              | ug/L |   | 97   | 70 - 130     |    |
| 2,2-Dichloropropane                   | ND            |                  | 25.0        | 25.8      |              | ug/L |   | 103  | 69 - 138     |    |
| 2-Chlorotoluene                       | ND            |                  | 25.0        | 21.1      |              | ug/L |   | 85   | 70 - 130     |    |
| 4-Chlorotoluene                       | ND            |                  | 25.0        | 22.6      |              | ug/L |   | 90   | 70 - 130     |    |
| Acetone                               | ND            |                  | 25.0        | 34.5      |              | ug/L |   | 138  | 10 - 150     |    |
| Benzene                               | ND            |                  | 25.0        | 21.7      |              | ug/L |   | 87   | 66 - 130     |    |
| Bromobenzene                          | ND            |                  | 25.0        | 21.2      |              | ug/L |   | 85   | 70 - 130     |    |
| Bromochloromethane                    | ND            |                  | 25.0        | 30.1      |              | ug/L |   | 120  | 70 - 130     |    |
| Bromodichloromethane                  | ND            |                  | 25.0        | 31.4      |              | ug/L |   | 126  | 70 - 138     |    |
| Bromoform                             | ND            |                  | 25.0        | 32.0      |              | ug/L |   | 128  | 59 - 150     |    |
| Bromomethane                          | ND            |                  | 25.0        | 25.2      |              | ug/L |   | 101  | 62 - 131     |    |
| Carbon tetrachloride                  | ND            |                  | 25.0        | 30.1      |              | ug/L |   | 120  | 60 - 150     |    |
| Chlorobenzene                         | ND            |                  | 25.0        | 23.3      |              | ug/L |   | 93   | 70 - 130     |    |
| Chloroethane                          | ND            |                  | 25.0        | 21.3      |              | ug/L |   | 85   | 68 - 130     |    |
| Chloroform                            | ND            |                  | 25.0        | 26.7      |              | ug/L |   | 107  | 70 - 130     |    |
| Chloromethane                         | ND            |                  | 25.0        | 17.3      |              | ug/L |   | 69   | 39 - 144     |    |
| cis-1,2-Dichloroethene                | ND            |                  | 25.0        | 24.8      |              | ug/L |   | 99   | 70 - 130     |    |
| cis-1,3-Dichloropropene               | ND            |                  | 25.0        | 26.3      |              | ug/L |   | 105  | 70 - 133     |    |
| Dibromochloromethane                  | ND            |                  | 25.0        | 32.6      |              | ug/L |   | 131  | 70 - 148     |    |
| Dibromomethane                        | ND            |                  | 25.0        | 30.2      |              | ug/L |   | 121  | 70 - 130     |    |
| Dichlorodifluoromethane               | ND            |                  | 25.0        | 20.4      |              | ug/L |   | 82   | 25 - 142     |    |
| Ethylbenzene                          | ND            |                  | 25.0        | 23.1      |              | ug/L |   | 92   | 70 - 130     |    |
| Hexachlorobutadiene                   | ND            |                  | 25.0        | 21.1      |              | ug/L |   | 85   | 10 - 150     |    |
| Isopropylbenzene                      | ND            |                  | 25.0        | 24.6      |              | ug/L |   | 98   | 70 - 132     |    |
| m,p-Xylene                            | ND            |                  | 25.0        | 24.0      |              | ug/L |   | 96   | 70 - 133     |    |
| Methylene Chloride                    | ND F2         |                  | 25.0        | 21.1      |              | ug/L |   | 84   | 52 - 130     |    |
| Methyl-t-Butyl Ether (MTBE)           | ND            |                  | 25.0        | 25.6      |              | ug/L |   | 102  | 70 - 130     |    |
| Naphthalene                           | ND            |                  | 25.0        | 29.5      |              | ug/L |   | 115  | 60 - 140     |    |
| n-Butylbenzene                        | ND            |                  | 25.0        | 21.7      |              | ug/L |   | 87   | 61 - 149     |    |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-228205-B-1 MS**

**Matrix: Water**

**Analysis Batch: 519016**

| Analyte                      | Sample           | Sample           | Spike            | MS     | MS            | Unit | D | %Rec | %Rec.    | Limits |  |
|------------------------------|------------------|------------------|------------------|--------|---------------|------|---|------|----------|--------|--|
|                              | Result           | Qualifier        | Added            | Result | Qualifier     |      |   |      |          |        |  |
| N-Propylbenzene              | ND               |                  | 25.0             | 20.5   |               | ug/L |   | 82   | 66 - 135 |        |  |
| o-Xylene                     | ND               |                  | 25.0             | 25.1   |               | ug/L |   | 101  | 70 - 133 |        |  |
| p-Isopropyltoluene           | ND               |                  | 25.0             | 21.9   |               | ug/L |   | 88   | 70 - 130 |        |  |
| sec-Butylbenzene             | ND               |                  | 25.0             | 20.0   |               | ug/L |   | 80   | 67 - 134 |        |  |
| Styrene                      | ND               |                  | 25.0             | 24.3   |               | ug/L |   | 97   | 29 - 150 |        |  |
| tert-Butylbenzene            | ND               |                  | 25.0             | 21.2   |               | ug/L |   | 85   | 70 - 130 |        |  |
| Tetrachloroethene            | 4.0              |                  | 25.0             | 23.7   |               | ug/L |   | 79   | 70 - 137 |        |  |
| Toluene                      | ND               |                  | 25.0             | 21.3   |               | ug/L |   | 85   | 70 - 130 |        |  |
| trans-1,2-Dichloroethene     | ND               |                  | 25.0             | 21.8   |               | ug/L |   | 87   | 70 - 130 |        |  |
| trans-1,3-Dichloropropene    | ND               |                  | 25.0             | 26.5   |               | ug/L |   | 106  | 70 - 138 |        |  |
| Trichloroethene              | 3.7              |                  | 25.0             | 26.9   |               | ug/L |   | 93   | 70 - 130 |        |  |
| Trichlorofluoromethane       | ND               |                  | 25.0             | 27.5   |               | ug/L |   | 110  | 60 - 150 |        |  |
| Vinyl chloride               | ND               |                  | 25.0             | 21.1   |               | ug/L |   | 84   | 50 - 137 |        |  |
| <b>Surrogate</b>             |                  |                  |                  |        |               |      |   |      |          |        |  |
|                              | <b>MS</b>        | <b>MS</b>        |                  |        |               |      |   |      |          |        |  |
|                              | <b>Surrogate</b> | <b>%Recovery</b> | <b>Qualifier</b> |        | <b>Limits</b> |      |   |      |          |        |  |
| 1,2-Dichloroethane-d4 (Surr) | 125              |                  |                  |        | 70 - 130      |      |   |      |          |        |  |
| 4-Bromofluorobenzene (Surr)  | 86               |                  |                  |        | 80 - 120      |      |   |      |          |        |  |
| Dibromofluoromethane (Surr)  | 116              |                  |                  |        | 76 - 132      |      |   |      |          |        |  |
| Toluene-d8 (Surr)            | 87               |                  |                  |        | 80 - 128      |      |   |      |          |        |  |

**Lab Sample ID: 440-228205-B-1 MSD**

**Matrix: Water**

**Analysis Batch: 519016**

| Analyte                               | Sample | Sample    | Spike | MSD    | MSD       | Unit | D | %Rec | %Rec.    | RPD | Limit |
|---------------------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
|                                       | Result | Qualifier | Added | Result | Qualifier |      |   |      |          |     |       |
| 1,1,1,2-Tetrachloroethane             | ND     |           | 25.0  | 30.7   |           | ug/L |   | 123  | 60 - 149 | 3   | 20    |
| 1,1,1-Trichloroethane                 | ND     |           | 25.0  | 28.7   |           | ug/L |   | 115  | 70 - 130 | 7   | 20    |
| 1,1,2,2-Tetrachloroethane             | ND     |           | 25.0  | 26.6   |           | ug/L |   | 106  | 63 - 130 | 6   | 30    |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND     |           | 25.0  | 25.1   |           | ug/L |   | 100  | 60 - 140 | 12  | 20    |
| 1,1,2-Trichloroethane                 | ND     |           | 25.0  | 26.0   |           | ug/L |   | 104  | 70 - 130 | 1   | 25    |
| 1,1-Dichloroethane                    | ND     |           | 25.0  | 26.3   |           | ug/L |   | 105  | 65 - 130 | 13  | 20    |
| 1,1-Dichloroethene                    | ND     |           | 25.0  | 23.3   |           | ug/L |   | 92   | 70 - 130 | 9   | 20    |
| 1,1-Dichloropropene                   | ND     |           | 25.0  | 23.8   |           | ug/L |   | 95   | 64 - 130 | 8   | 20    |
| 1,2,3-Trichlorobenzene                | ND     |           | 25.0  | 30.0   |           | ug/L |   | 120  | 60 - 140 | 5   | 20    |
| 1,2,3-Trichloropropane                | ND     |           | 25.0  | 27.3   |           | ug/L |   | 109  | 60 - 130 | 1   | 30    |
| 1,2,4-Trichlorobenzene                | ND     |           | 25.0  | 28.4   |           | ug/L |   | 113  | 60 - 140 | 7   | 20    |
| 1,2,4-Trimethylbenzene                | ND     |           | 25.0  | 24.1   |           | ug/L |   | 96   | 70 - 130 | 8   | 25    |
| 1,2-Dibromo-3-Chloropropane           | ND     | F1        | 25.0  | 34.5   |           | ug/L |   | 138  | 48 - 140 | 4   | 30    |
| 1,2-Dibromoethane (EDB)               | ND     |           | 25.0  | 28.5   |           | ug/L |   | 114  | 70 - 131 | 7   | 25    |
| 1,2-Dichlorobenzene                   | ND     |           | 25.0  | 27.3   |           | ug/L |   | 109  | 70 - 130 | 8   | 20    |
| 1,2-Dichloroethane                    | ND     |           | 25.0  | 33.9   |           | ug/L |   | 133  | 56 - 146 | 4   | 20    |
| 1,2-Dichloropropane                   | ND     |           | 25.0  | 26.1   |           | ug/L |   | 104  | 69 - 130 | 7   | 20    |
| 1,3,5-Trimethylbenzene                | ND     |           | 25.0  | 24.0   |           | ug/L |   | 96   | 70 - 130 | 8   | 20    |
| 1,3-Dichlorobenzene                   | ND     |           | 25.0  | 25.3   |           | ug/L |   | 101  | 70 - 130 | 5   | 20    |
| 1,3-Dichloropropane                   | ND     |           | 25.0  | 25.1   |           | ug/L |   | 100  | 70 - 130 | 2   | 25    |
| 1,4-Dichlorobenzene                   | ND     |           | 25.0  | 25.0   |           | ug/L |   | 100  | 70 - 130 | 3   | 20    |
| 2,2-Dichloropropane                   | ND     |           | 25.0  | 28.6   |           | ug/L |   | 114  | 69 - 138 | 10  | 25    |

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-228205-B-1 MSD**

**Matrix: Water**

**Analysis Batch: 519016**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

| Analyte                      | Sample | Sample           | Spike            | MSD           | MSD       | Unit | D   | %Rec     | %Rec.  | RPD | RPD Limit |
|------------------------------|--------|------------------|------------------|---------------|-----------|------|-----|----------|--------|-----|-----------|
|                              | Result | Qualifier        | Added            | Result        | Qualifier |      |     |          | Limits |     |           |
| 2-Chlorotoluene              | ND     |                  | 25.0             | 23.2          |           | ug/L | 93  | 70 - 130 | 10     | 20  |           |
| 4-Chlorotoluene              | ND     |                  | 25.0             | 24.4          |           | ug/L | 97  | 70 - 130 | 8      | 20  |           |
| Acetone                      | ND     |                  | 25.0             | 35.5          |           | ug/L | 142 | 10 - 150 | 3      | 35  |           |
| Benzene                      | ND     |                  | 25.0             | 23.7          |           | ug/L | 95  | 66 - 130 | 9      | 20  |           |
| Bromobenzene                 | ND     |                  | 25.0             | 23.5          |           | ug/L | 94  | 70 - 130 | 10     | 20  |           |
| Bromochloromethane           | ND     |                  | 25.0             | 31.1          |           | ug/L | 125 | 70 - 130 | 3      | 25  |           |
| Bromodichloromethane         | ND     |                  | 25.0             | 31.9          |           | ug/L | 128 | 70 - 138 | 1      | 20  |           |
| Bromoform                    | ND     |                  | 25.0             | 33.2          |           | ug/L | 133 | 59 - 150 | 4      | 25  |           |
| Bromomethane                 | ND     |                  | 25.0             | 26.5          |           | ug/L | 106 | 62 - 131 | 5      | 25  |           |
| Carbon tetrachloride         | ND     |                  | 25.0             | 32.3          |           | ug/L | 129 | 60 - 150 | 7      | 25  |           |
| Chlorobenzene                | ND     |                  | 25.0             | 24.6          |           | ug/L | 98  | 70 - 130 | 5      | 20  |           |
| Chloroethane                 | ND     |                  | 25.0             | 23.5          |           | ug/L | 94  | 68 - 130 | 10     | 25  |           |
| Chloroform                   | ND     |                  | 25.0             | 28.4          |           | ug/L | 114 | 70 - 130 | 6      | 20  |           |
| Chloromethane                | ND     |                  | 25.0             | 21.5          |           | ug/L | 86  | 39 - 144 | 22     | 25  |           |
| cis-1,2-Dichloroethene       | ND     |                  | 25.0             | 26.8          |           | ug/L | 107 | 70 - 130 | 8      | 20  |           |
| cis-1,3-Dichloropropene      | ND     |                  | 25.0             | 27.1          |           | ug/L | 108 | 70 - 133 | 3      | 20  |           |
| Dibromochloromethane         | ND     |                  | 25.0             | 33.8          |           | ug/L | 135 | 70 - 148 | 4      | 25  |           |
| Dibromomethane               | ND     |                  | 25.0             | 31.3          |           | ug/L | 125 | 70 - 130 | 4      | 25  |           |
| Dichlorodifluoromethane      | ND     |                  | 25.0             | 22.4          |           | ug/L | 90  | 25 - 142 | 9      | 30  |           |
| Ethylbenzene                 | ND     |                  | 25.0             | 24.5          |           | ug/L | 98  | 70 - 130 | 6      | 20  |           |
| Hexachlorobutadiene          | ND     |                  | 25.0             | 22.3          |           | ug/L | 89  | 10 - 150 | 5      | 20  |           |
| Isopropylbenzene             | ND     |                  | 25.0             | 26.2          |           | ug/L | 105 | 70 - 132 | 6      | 20  |           |
| m,p-Xylene                   | ND     |                  | 25.0             | 25.3          |           | ug/L | 101 | 70 - 133 | 6      | 25  |           |
| Methylene Chloride           | ND     | F2               | 25.0             | 26.8          | F2        | ug/L | 107 | 52 - 130 | 24     | 20  |           |
| Methyl-t-Butyl Ether (MTBE)  | ND     |                  | 25.0             | 26.4          |           | ug/L | 105 | 70 - 130 | 3      | 25  |           |
| Naphthalene                  | ND     |                  | 25.0             | 31.6          |           | ug/L | 124 | 60 - 140 | 7      | 30  |           |
| n-Butylbenzene               | ND     |                  | 25.0             | 24.3          |           | ug/L | 97  | 61 - 149 | 11     | 20  |           |
| N-Propylbenzene              | ND     |                  | 25.0             | 22.6          |           | ug/L | 90  | 66 - 135 | 10     | 20  |           |
| o-Xylene                     | ND     |                  | 25.0             | 26.5          |           | ug/L | 106 | 70 - 133 | 5      | 20  |           |
| p-Isopropyltoluene           | ND     |                  | 25.0             | 24.2          |           | ug/L | 97  | 70 - 130 | 10     | 20  |           |
| sec-Butylbenzene             | ND     |                  | 25.0             | 22.2          |           | ug/L | 89  | 67 - 134 | 10     | 20  |           |
| Styrene                      | ND     |                  | 25.0             | 25.1          |           | ug/L | 100 | 29 - 150 | 3      | 35  |           |
| tert-Butylbenzene            | ND     |                  | 25.0             | 23.1          |           | ug/L | 92  | 70 - 130 | 9      | 20  |           |
| Tetrachloroethene            | 4.0    |                  | 25.0             | 25.6          |           | ug/L | 86  | 70 - 137 | 8      | 20  |           |
| Toluene                      | ND     |                  | 25.0             | 23.8          |           | ug/L | 95  | 70 - 130 | 11     | 20  |           |
| trans-1,2-Dichloroethene     | ND     |                  | 25.0             | 24.3          |           | ug/L | 97  | 70 - 130 | 11     | 20  |           |
| trans-1,3-Dichloropropene    | ND     |                  | 25.0             | 27.8          |           | ug/L | 111 | 70 - 138 | 5      | 25  |           |
| Trichloroethene              | 3.7    |                  | 25.0             | 29.8          |           | ug/L | 105 | 70 - 130 | 10     | 20  |           |
| Trichlorofluoromethane       | ND     |                  | 25.0             | 28.9          |           | ug/L | 116 | 60 - 150 | 5      | 25  |           |
| Vinyl chloride               | ND     |                  | 25.0             | 23.2          |           | ug/L | 93  | 50 - 137 | 9      | 30  |           |
| <b>Surrogate</b>             |        | <b>MSD</b>       | <b>MSD</b>       |               |           |      |     |          |        |     |           |
| <b>Surrogate</b>             |        | <b>%Recovery</b> | <b>Qualifier</b> | <b>Limits</b> |           |      |     |          |        |     |           |
| 1,2-Dichloroethane-d4 (Surr) |        | 122              |                  | 70 - 130      |           |      |     |          |        |     |           |
| 4-Bromofluorobenzene (Surr)  |        | 89               |                  | 80 - 120      |           |      |     |          |        |     |           |
| Dibromofluoromethane (Surr)  |        | 117              |                  | 76 - 132      |           |      |     |          |        |     |           |
| Toluene-d8 (Surr)            |        | 87               |                  | 80 - 128      |           |      |     |          |        |     |           |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
 SDG: Omega Chemical

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 440-519214/4**

**Matrix: Water**

**Analysis Batch: 519214**

| Analyte                      | MB        | MB        | RL       | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|------|---|----------|----------------|---------|
|                              | Result    | Qualifier |          |      |   |          |                |         |
| Acetone                      | ND        |           | 10       | ug/L |   |          | 12/26/18 08:17 | 1       |
| Isopropyl alcohol            | ND        |           | 250      | ug/L |   |          | 12/26/18 08:17 | 1       |
| <b>Surrogate</b>             | <b>MB</b> | <b>MB</b> |          |      |   |          |                |         |
| 1,2-Dichloroethane-d4 (Surr) | %Recovery | Qualifier | Limits   |      |   | Prepared | Analyzed       | Dil Fac |
| 113                          |           |           | 70 - 130 |      |   |          | 12/26/18 08:17 | 1       |
| 4-Bromofluorobenzene (Surr)  | 99        |           | 80 - 120 |      |   |          | 12/26/18 08:17 | 1       |
| Dibromofluoromethane (Surr)  | 102       |           | 76 - 132 |      |   |          | 12/26/18 08:17 | 1       |
| Toluene-d8 (Surr)            | 98        |           | 80 - 128 |      |   |          | 12/26/18 08:17 | 1       |

**Lab Sample ID: LCS 440-519214/5**

**Matrix: Water**

**Analysis Batch: 519214**

| Analyte                      | Spike Added | LC        | LC        | Unit | D   | %Rec     | %Rec. |
|------------------------------|-------------|-----------|-----------|------|-----|----------|-------|
|                              |             | Result    | Qualifier |      |     |          |       |
| Acetone                      | 25.0        | 37.0      | ug/L      |      | 148 | 10 - 150 |       |
| <b>Surrogate</b>             | <b>LC</b>   | <b>LC</b> |           |      |     |          |       |
| 1,2-Dichloroethane-d4 (Surr) | %Recovery   | Qualifier | Limits    |      |     |          |       |
| 119                          |             |           | 70 - 130  |      |     |          |       |
| 4-Bromofluorobenzene (Surr)  | 96          |           | 80 - 120  |      |     |          |       |
| Dibromofluoromethane (Surr)  | 104         |           | 76 - 132  |      |     |          |       |
| Toluene-d8 (Surr)            | 94          |           | 80 - 128  |      |     |          |       |

**Lab Sample ID: 440-228135-A-2 MS**

**Matrix: Water**

**Analysis Batch: 519214**

| Analyte                      | Sample    | Sample    | Spike    | MS     | MS        | Unit | D   | %Rec     | %Rec. |
|------------------------------|-----------|-----------|----------|--------|-----------|------|-----|----------|-------|
|                              | Result    | Qualifier | Added    | Result | Qualifier |      |     |          |       |
| Acetone                      | ND        |           | 25.0     | 37.0   | ug/L      |      | 148 | 10 - 150 |       |
| <b>Surrogate</b>             | <b>MS</b> | <b>MS</b> |          |        |           |      |     |          |       |
| 1,2-Dichloroethane-d4 (Surr) | %Recovery | Qualifier | Limits   |        |           |      |     |          |       |
| 116                          |           |           | 70 - 130 |        |           |      |     |          |       |
| 4-Bromofluorobenzene (Surr)  | 83        |           | 80 - 120 |        |           |      |     |          |       |
| Dibromofluoromethane (Surr)  | 102       |           | 76 - 132 |        |           |      |     |          |       |
| Toluene-d8 (Surr)            | 94        |           | 80 - 128 |        |           |      |     |          |       |

**Lab Sample ID: 440-228135-A-2 MSD**

**Matrix: Water**

**Analysis Batch: 519214**

| Analyte                      | Sample     | Sample     | Spike    | MSD    | MSD       | Unit | D   | %Rec     | %Rec. | RPD |
|------------------------------|------------|------------|----------|--------|-----------|------|-----|----------|-------|-----|
|                              | Result     | Qualifier  | Added    | Result | Qualifier |      |     |          |       |     |
| Acetone                      | ND         |            | 25.0     | 29.9   | ug/L      |      | 119 | 10 - 150 | 21    | 35  |
| <b>Surrogate</b>             | <b>MSD</b> | <b>MSD</b> |          |        |           |      |     |          |       |     |
| 1,2-Dichloroethane-d4 (Surr) | %Recovery  | Qualifier  | Limits   |        |           |      |     |          |       |     |
| 113                          |            |            | 70 - 130 |        |           |      |     |          |       |     |
| 4-Bromofluorobenzene (Surr)  | 90         |            | 80 - 120 |        |           |      |     |          |       |     |
| Dibromofluoromethane (Surr)  | 101        |            | 76 - 132 |        |           |      |     |          |       |     |
| Toluene-d8 (Surr)            | 93         |            | 80 - 128 |        |           |      |     |          |       |     |

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

**Prep Type: Total/NA**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
 SDG: Omega Chemical

## Method: 8270C SIM - 1,4 Dioxane by SIM

**Lab Sample ID:** MB 440-518885/1-A

**Matrix:** Water

**Analysis Batch:** 519028

| Analyte               | MB        | MB        | RL       | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------|-----------|-----------|----------|------|---|----------------|----------------|---------|
|                       | Result    | Qualifier |          |      |   | 12/22/18 08:56 | 12/24/18 16:34 | 1       |
| 1,4-Dioxane           | ND        |           | 0.50     | ug/L |   |                |                |         |
| <b>Surrogate</b>      | <b>MB</b> | <b>MB</b> |          |      |   |                |                |         |
| 1,4-Dioxane-d8 (Surr) | %Recovery | Qualifier | Limits   |      |   | Prepared       | Analyzed       | Dil Fac |
|                       | 43        |           | 27 - 120 |      |   | 12/22/18 08:56 | 12/24/18 16:34 | 1       |

**Lab Sample ID:** LCS 440-518885/2-A

**Matrix:** Water

**Analysis Batch:** 519028

| Analyte               | Spike Added | LCSS        | LCSS      | Unit | D | %Rec | Limits   | %Rec. |
|-----------------------|-------------|-------------|-----------|------|---|------|----------|-------|
|                       |             | Result      | Qualifier |      |   |      |          |       |
| 1,4-Dioxane           | 2.00        | 0.886       |           | ug/L |   | 44   | 36 - 120 |       |
| <b>Surrogate</b>      | <b>LCSS</b> | <b>LCSS</b> |           |      |   |      |          |       |
| 1,4-Dioxane-d8 (Surr) | %Recovery   | Qualifier   | Limits    |      |   |      |          |       |
|                       | 38          |             | 27 - 120  |      |   |      |          |       |

**Lab Sample ID:** LCSD 440-518885/3-A

**Matrix:** Water

**Analysis Batch:** 519028

| Analyte               | Spike Added | LCSD        | LCSD      | Unit | D | %Rec | Limits   | RPD |
|-----------------------|-------------|-------------|-----------|------|---|------|----------|-----|
|                       |             | Result      | Qualifier |      |   |      |          |     |
| 1,4-Dioxane           | 2.00        | 0.927       |           | ug/L |   | 46   | 36 - 120 | 4   |
| <b>Surrogate</b>      | <b>LCSD</b> | <b>LCSD</b> |           |      |   |      |          |     |
| 1,4-Dioxane-d8 (Surr) | %Recovery   | Qualifier   | Limits    |      |   |      |          |     |
|                       | 40          |             | 27 - 120  |      |   |      |          |     |

**Client Sample ID:** Method Blank

**Prep Type:** Total/NA

**Prep Batch:** 518885

TestAmerica Irvine

# QC Association Summary

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
 SDG: Omega Chemical

## GC/MS VOA

### Analysis Batch: 519016

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 440-228243-1       | OC_SP220B_EFF_121818   | Total/NA  | Water  | 8260B  | 5          |
| 440-228243-2       | OC_SP210_INF_121818    | Total/NA  | Water  | 8260B  | 6          |
| 440-228243-3       | OC_TB_121818           | Total/NA  | Water  | 8260B  | 7          |
| MB 440-519016/4    | Method Blank           | Total/NA  | Water  | 8260B  | 8          |
| LCS 440-519016/5   | Lab Control Sample     | Total/NA  | Water  | 8260B  | 9          |
| 440-228205-B-1 MS  | Matrix Spike           | Total/NA  | Water  | 8260B  | 10         |
| 440-228205-B-1 MSD | Matrix Spike Duplicate | Total/NA  | Water  | 8260B  | 11         |

### Analysis Batch: 519214

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 440-228243-1 - RA  | OC_SP220B_EFF_121818   | Total/NA  | Water  | 8260B  | 12         |
| MB 440-519214/4    | Method Blank           | Total/NA  | Water  | 8260B  | 13         |
| LCS 440-519214/5   | Lab Control Sample     | Total/NA  | Water  | 8260B  | 14         |
| 440-228135-A-2 MS  | Matrix Spike           | Total/NA  | Water  | 8260B  | 15         |
| 440-228135-A-2 MSD | Matrix Spike Duplicate | Total/NA  | Water  | 8260B  | 16         |

## GC/MS Semi VOA

### Prep Batch: 518885

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 440-228243-1        | OC_SP220B_EFF_121818   | Total/NA  | Water  | 3520C  | 17         |
| MB 440-518885/1-A   | Method Blank           | Total/NA  | Water  | 3520C  | 18         |
| LCS 440-518885/2-A  | Lab Control Sample     | Total/NA  | Water  | 3520C  | 19         |
| LCSD 440-518885/3-A | Lab Control Sample Dup | Total/NA  | Water  | 3520C  | 20         |

### Analysis Batch: 519028

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method    | Prep Batch |
|---------------------|------------------------|-----------|--------|-----------|------------|
| 440-228243-1        | OC_SP220B_EFF_121818   | Total/NA  | Water  | 8270C SIM | 21         |
| MB 440-518885/1-A   | Method Blank           | Total/NA  | Water  | 8270C SIM | 22         |
| LCS 440-518885/2-A  | Lab Control Sample     | Total/NA  | Water  | 8270C SIM | 23         |
| LCSD 440-518885/3-A | Lab Control Sample Dup | Total/NA  | Water  | 8270C SIM | 24         |

# Definitions/Glossary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
SDG: Omega Chemical

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description                                |
|-----------|--|
| F1        | MS and/or MSD Recovery is outside acceptance limits. |
| F2        | MS/MSD RPD exceeds control limits                    |
| X         | Surrogate is outside control limits                  |

## Glossary

**Abbreviation** These commonly used abbreviations may or may not be present in this report.

|                |   |
|----------------|---|
| ¤              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

## Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical - GWTS Monthly

TestAmerica Job ID: 440-228243-1  
SDG: Omega Chemical

### Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| California | State Program | 9          | CA ELAP 2706          | 06-30-19        |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte                               |
|-----------------|-------------|--------|---------------------------------------|
| 8260B           |             | Water  | 1,1,2-Trichloro-1,2,2-trifluoroethane |
| 8260B           |             | Water  | m,p-Xylene                            |
| 8270C SIM       | 3520C       | Water  | 1,4-Dioxane                           |

TestAmerica Irvine

17461 Dorian Ave  
Suite 100  
Irvine, CA 92614  
phone 949.261.1022 fax

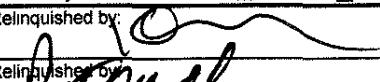
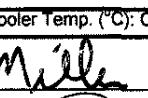
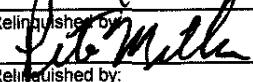
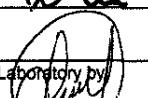
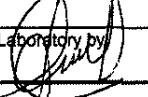
## Chain of Custody Record

**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

**TestAmerica Laboratories, Inc.**

Regulatory Program:  Jw  NPDES  RCRA  Other:

|   |  |   |             |  |        |  |     |   |                        |                          |  |
|---|--|---|-------------|--|--------|--|-----|---|------------------------|--------------------------|--|
| <b>Client Contact</b>   |  | Project Manager: Trent Henderson<br>Tel/Fax: (949) 453-1045 / (949) 453-1047  |             | Site Contact: Khalid Azhar<br>Lab Contact: Danielle Roberts  |        | Date: 12/ /2018<br>Carrier:  |     | COC No:<br>1 ____ of ____ COCs  |                        |                          |  |
| De Maximis - Jaime Dinello<br>1322 Scott St., Suite 104<br>San Diego, CA 92106<br>(562) 756-8149  |  | Analysis Turnaround Time<br><input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS<br>TAT if different from Below _____ STD<br><br><input type="checkbox"/> 2 weeks<br><input type="checkbox"/> 1 week<br><input type="checkbox"/> 2 days<br><input type="checkbox"/> 1 day |             | EPA 2820-C - 1-4 Duplicate<br>Pertinent MS / MSDS (Y/N)      |        |  |     | Sampler:<br>For Lab Use Only:<br>Walk-in Client:<br>Lab Sampling:<br>Job / SDG No.: |                        |                          |  |
| Project Name: Omega Chemical - GWTS Monthly<br>Site: Omega Chemical<br>PO #   |  |   |             |  |        |  |     |   |                        |                          |  |
| Sample Identification   |  | Sample Date   | Sample Time | Sample Type (C=Comp, G=Grab)                                 | Matrix | # of Cont.   |     |   | Sample Specific Notes: |                          |  |
| OC_SP220B_EFF_12 18 18  |  | 12/18/18  | 1204        | Grab   | GW     | 5  | x x |   |                        |                          |  |
| OC_SP210_INF_12 18 18   |  | 12/18/18  | 1210        | Grab   | GW     | 3  | x   |   |                        |                          |  |
| OC_TB_12 18 18  |  | 12/18/18  | 1200        | H2O  | H2O    | 2  | x   |   |                        |                          |  |
| <p>Preservation Used: 1=Ice, 2=HCl; 3=H<sub>2</sub>SO<sub>4</sub>; 4=HNO<sub>3</sub>; 5=NaOH; 6= Other _____</p> <p>Possible Hazard Identification:<br/>Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.</p> <p><input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown</p> <p>Special Instructions/QC Requirements &amp; Comments:</p> |  |   |             |  |        |  |     |   |                        |                          |  |
| Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No  |  | Custody Seal No.:   |             | Cooler Temp. (°C): Obs'd: 4.9 Cor'd: 4.9 Therm ID No.: LR-87 |        |  |     |   |                        |                          |  |
| Relinquished by:   |  | Company: JHP  |             | Date/Time: 12/19/18 1105                                     |        | Received by:                |     | Company: TA IRV   |                        | Date/Time: 12/19/18 1105 |  |
| Relinquished by:   |  | Company: TA IRV   |             | Date/Time: 12/19/18 1205                                     |        | Received by:                |     | Company: TA IRV   |                        | Date/Time: 12/19/18 1205 |  |
| Relinquished by:  |  | Company:  |             | Date/Time:   |        | Received in Laboratory by:  |     | Company: TA IRV   |                        | Date/Time: 12/14/18 1820 |  |



440-228243 Chain of Custody

12/19/18  
AK

## Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-228243-1  
SDG Number: Omega Chemical

**Login Number:** 228243

**List Source:** TestAmerica Irvine

**List Number:** 1

**Creator:** Soderblom, Tim

| Question   | Answer | Comment     |    |
|--|--------|-------------|----|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | True   |             | 6  |
| The cooler's custody seal, if present, is intact.                                | N/A    | Not present | 7  |
| Sample custody seals, if present, are intact.                                    | N/A    | Not Present | 8  |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |             | 9  |
| Samples were received on ice.  | True   |             | 10 |
| Cooler Temperature is acceptable.  | True   |             | 11 |
| Cooler Temperature is recorded.  | True   |             | 12 |
| COC is present.  | True   |             | 13 |
| COC is filled out in ink and legible.  | True   |             | 14 |
| COC is filled out with all pertinent information.                                | True   |             | 15 |
| Is the Field Sampler's name present on COC?                                      | True   |             |    |
| There are no discrepancies between the containers received and the COC.          | True   |             |    |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |             |    |
| Sample containers have legible labels.   | True   |             |    |
| Containers are not broken or leaking.  | True   |             |    |
| Sample collection date/times are provided.                                       | True   |             |    |
| Appropriate sample containers are used.  | True   |             |    |
| Sample bottles are completely filled.  | True   |             |    |
| Sample Preservation Verified.  | N/A    |             |    |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |             |    |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | True   |             |    |
| Multiphasic samples are not present.   | True   |             |    |
| Samples do not require splitting or compositing.                                 | True   |             |    |
| Residual Chlorine Checked.   | N/A    |             |    |

## **ATTACHMENT E**

### **Operational Data Summaries**

**Attachment E, Table E-1**  
**Hydraulic Containment Extraction Well Operational Summary**  
**OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site**  
**Fourth Quarter 2018**

|      |                  | Pump Runtime (hrs) | Total Volume Extracted (gal) | Operational Flow Rate <sup>1</sup> (gpm) | Average Flow Rate <sup>2</sup> (gpm) |
|------|------------------|--------------------|------------------------------|--|--------------------------------------|
| EW-1 | October 2018     | 0                  | 0                            | 0  | 0                                    |
|      | November 2018    | 0                  | 0                            | 0  | 0                                    |
|      | December 2018    | 0                  | 0                            | 0  | 0                                    |
|      | 4th Quarter 2018 | 0                  | 0                            | 0  | 0                                    |
| EW-2 | October 2018     | 0                  | 0                            | 0  | 0                                    |
|      | November 2018    | 0                  | 0                            | 0  | 0                                    |
|      | December 2018    | 0                  | 0                            | 0  | 0                                    |
|      | 4th Quarter 2018 | 0                  | 0                            | 0  | 0                                    |
| EW-3 | October 2018     | 0.27               | 25.9                         | 1.60                                     | 0.001                                |
|      | November 2018    | 0.06               | 3.34                         | 0.93                                     | 0.0001                               |
|      | December 2018    | 5.88               | 568                          | 1.61                                     | 0.01                                 |
|      | 4th Quarter 2018 | 6.21               | 597                          | 1.38                                     | 0.004                                |
| EW-4 | October 2018     | 3.81               | 1,145                        | 5.01                                     | 0.03                                 |
|      | November 2018    | 2.89               | 972                          | 5.61                                     | 0.02                                 |
|      | December 2018    | 5.42               | 969                          | 2.98                                     | 0.02                                 |
|      | 4th Quarter 2018 | 12.1               | 3,087                        | 4.53                                     | 0.02                                 |
| EW-5 | October 2018     | 10.7               | 3,121                        | 4.86                                     | 0.07                                 |
|      | November 2018    | 9.08               | 2,565                        | 4.71                                     | 0.06                                 |
|      | December 2018    | 11.3               | 2,914                        | 4.30                                     | 0.07                                 |
|      | 4th Quarter 2018 | 31.1               | 8,599                        | 4.62                                     | 0.06                                 |

Notes:

1. Operational flow rate calculated from total gallons processed in the month and hours the pump actually operated in the month.

2. Average flow rate is calculated from total gallons processed in the month and total hours in the month, regardless of pump uptime.

All extraction wells operate on/off based on water levels measured by pressure transducers installed in each well.

hrs = hours

gal = gallons

gpm = gallons per minute

**Attachment E, Table E-2**  
**Vapor Phase GAC Operational Data Demonstrating Substantive Compliance with SCAQMD Regulations**  
**Fourth Quarter 2018**

| SCAQMD Limit                            |                                      | 1000                            | 145                             |                                 |                                     | 3.6                             |                                       |  |
|---|--------------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------------------|---------------------------------|---------------------------------------|--|
| HRA Changeout Criteria                  |                                      |                                 |                                 |                                 | 12 <sup>3</sup>                     |                                 | 90 <sup>3</sup>                       |  |
| Date                                    | Influent Vapor Relative Humidity (%) | Influent Vapor Flow Rate (SCFM) | Influent Vapor Temperature (°F) | Influent PID Measurement (ppmv) | Intermediate PID Measurement (ppmv) | Effluent PID Measurement (ppmv) | Lead VGAC Efficiency <sup>1</sup> (%) | Overall VGAC Efficiency <sup>2</sup> (%) |
| 10/3/2018                               | 15.4                                 | 688                             | 105.2                           | 0.943                           | 0.419                               | 0.000                           | 56                                    | 100                                      |
| 10/12/2018                              | 15.6                                 | 695                             | 99.7                            | 0.973                           | 0.000                               | 0.000                           | 100                                   | 100                                      |
| 10/17/2018*                             | 15.6                                 | 707                             | 101.0                           | 2.052                           | 0.855                               | 0.312                           | 58                                    | 85                                       |
| 10/24/2018                              | 15.5                                 | 675                             | 100.5                           | 0.484                           | 0.103                               | 0.000                           | 79                                    | 100                                      |
| 10/30/2018                              | 15.7                                 | 681                             | 100.6                           | 0.713                           | 0.136                               | 0.000                           | 81                                    | 100                                      |
| 11/9/2018                               | 15.7                                 | 666                             | 97.4                            | 0.824                           | 0.000                               | 0.582                           | 100                                   | 29                                       |
| 11/14/2018                              | 15.6                                 | 674                             | 96.2                            | 0.176                           | 0.000                               | 0.003                           | 100                                   | 98                                       |
| 11/21/2018                              | 15.7                                 | 700                             | 96.6                            | 0.532                           | 0.012                               | 0.000                           | 98                                    | 100                                      |
| 11/27/2018                              | 15.7                                 | 693                             | 100.0                           | 1.068                           | 0.178                               | 0.123                           | 83                                    | 88                                       |
| 12/5/2018                               | 15.6                                 | 680                             | 96.1                            | 0.672                           | 0.330                               | 0.055                           | 51                                    | 92                                       |
| 12/11/2018                              | 15.8                                 | 689                             | 95.5                            | 0.455                           | 0.000                               | 0.000                           | 100                                   | 100                                      |
| 12/18/2018                              | 15.8                                 | 699                             | 96.5                            | 0.204                           | 0.000                               | 0.000                           | 100                                   | 100                                      |
| 12/26/2018                              | 15.7                                 | 681                             | 95.4                            | 0.367                           | 0.000                               | 0.003                           | 100                                   | 99                                       |
| <b>4th Quarter 2018</b>                 | <b>15.6</b>                          | <b>687</b>                      | <b>98.5</b>                     | <b>0.618</b>                    | <b>0.098</b>                        | <b>0.064</b>                    | <b>84</b>                             | <b>90</b>                                |
| Compliance with SCAQMD Limits?          | YES                                  | YES                             |                                 |                                 |                                     | YES                             |                                       |  |
| Carbon changeout required this quarter? |                                      |                                 |                                 |                                 | NO                                  |                                 | NO                                    |  |

Notes:

°F = degrees Fahrenheit

SCFM = Standard Cubic Feet per Minute

PID = photoionization detector

-- = not measured

\*PID did not calibrate correctly on 10/17/2018. Tedlar bag samples were collected on 10/17/2018 and measured on 10/24/2018 with calibrated PID.

1. Lead VGAC efficiency is calculated by the PID readings between the influent and intermediate.

2. Overall VGAC efficiency is calculated by the PID readings between the influent and effluent.

3. These limits by the SCAQMD Health Risk Assessment are for determining when a carbon changeout is required. **BOTH** limits for intermediate PID concentration and the lead VGAC efficiency must be exceeded during the same sampling event for the changeout requirement to take effect.

VGAC = vapor phase granular activated carbon

GAC = granular activated carbon

ppmv = parts per million by volume as hexane

SCAQMD HRA = South Coast Air Quality Management District Health Risk Assessment

**From:** Reed, Alesandra F.  
**To:** Merry Coons  
**Subject:** RE: Omega GWCS - October GAC Assessment  
**Date:** Tuesday, February 12, 2019 5:41:16 PM  
**Attachments:** [image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[image006.png](#)

---

Merry,

Below is the revised summary table for these data.

| Parameter                       | Concentration (ppbv) |          |          |                    | Below 2015 HRA Limit? |
|---------------------------------|----------------------|----------|----------|--------------------|-----------------------|
|                                 | Influent             | Midpoint | Effluent | HRA Effluent Limit |                       |
| 1,1,1-Trichloroethane (TCA)     | ND                   | ND       | ND       | 3                  | Yes                   |
| 1,1-Dichloroethane              | ND                   | ND       | ND       | 18                 | Yes                   |
| 1,1-Dichloroethene              | 19                   | 20       | 23       | 140                | Yes                   |
| 1,2-Dichloroethane              | ND                   | 1.6      | ND       | 12                 | Yes                   |
| Benzene                         | ND                   | ND       | ND       | 12                 | Yes                   |
| Carbon disulfide                | ND                   | ND       | ND       | 690                | Yes                   |
| Chloroform                      | 5.1                  | 6.1      | 4.8      | 95                 | Yes                   |
| Freon 11                        | 5.8                  | 5.5      | 5.8      | 4,200              | Yes                   |
| Freon 113                       | 20                   | 25       | 22       | 510                | Yes                   |
| Freon 12                        | ND                   | ND       | ND       | 249                | Yes                   |
| Isopropyl Alcohol (Isopropanol) | ND                   | ND       | ND       | 29                 | Yes                   |
| o-Xylene                        | ND                   | ND       | ND       | 3                  | Yes                   |
| Methyl ethyl ketone             | ND                   | ND       | ND       | 24                 | Yes                   |
| Methylene chloride              | ND                   | ND       | ND       | 6,900              | Yes                   |
| Tetrachloroethene (PCE)         | 65                   | ND       | ND       | 28                 | Yes                   |
| TNMOC ref. to Heptane (MW=100)  | 200                  | ND       | ND       | 4177               | Yes                   |
| Toluene                         | 1.5                  | ND       | ND       | 42                 | Yes                   |
| Trichloroethene (TCE)           | 10                   | ND       | ND       | 12                 | Yes                   |
| Vinyl chloride                  | ND                   | ND       | ND       | 230                | Yes                   |

ND: Not detected above the quantitation limit

Please let us know if you have any questions or wish to discuss these data further.

Thanks!

Alesandra

---

**From:** Reed, Alesandra F.  
**Sent:** Monday, November 5, 2018 3:20 PM  
**To:** 'jdinello@demaximis.com' <jdinello@demaximis.com>; Kyle King <kking@demaximis.com>; Coons Merry <mcoons@demaximis.com>  
**Cc:** Bamer, Jeffrey <BamerJT@cdmsmith.com>; Modiano Ed <edm@demaximis.com>  
**Subject:** Omega GWCS - October GAC Assessment

Team,

We evaluated the performance of the GAC used by the GWCS for the month of October 2018, relative to the conditions listed in the Health Risk Assessment (HRA) (CDM Smith 2015). These conditions must be met to remain in substantive compliance with SCAQMD requirements.

So far during the month of October, the GWCS system has met the conditions presented in the HRA and is therefore substantively compliant:

- None of the toxic air contaminants listed in Condition #14 of the HRA were detected in the effluent above their respective effluent limit (see table below).
- The GWCS did not meet the two criteria for replacement of the lead GAC vessel (listed under Condition #12 of the HRA), and therefore no GAC replacement was required.
- No other carcinogenic air contaminants beyond those listed in Condition #14 of the HRA were detected in effluent above 10 ppbv, and therefore per Condition #16, no toxic risk assessment was required.

We also evaluated all the analytical and PID data and, based on our professional judgement, we do not recommend a voluntary changeout of the lead vessel GAC at this time.

| Parameter                       | Concentration (ppbv) |          |          |                          | Below<br>2015 HRA<br>Limit? |
|---------------------------------|----------------------|----------|----------|--------------------------|-----------------------------|
|                                 | Influent             | Midpoint | Effluent | HRA<br>Effluent<br>Limit |                             |
| 1,1,1-Trichloroethane (TCA)     | 1.2                  | 1.2      | 1.2      | 3                        | Yes                         |
| 1,1-Dichloroethane              | 1.2                  | 1.2      | 1.2      | 18                       | Yes                         |
| 1,1-Dichloroethene              | 19                   | 20       | 23       | 140                      | Yes                         |
| 1,2-Dichloroethane              | 1.2                  | 1.6      | 1.2      | 12                       | Yes                         |
| Benzene                         | 1.2                  | 1.2      | 1.2      | 12                       | Yes                         |
| Carbon disulfide                | 4.8                  | 4.8      | 4.6      | 690                      | Yes                         |
| Chloroform                      | 5.1                  | 6.1      | 4.8      | 95                       | Yes                         |
| Freon 11                        | 5.8                  | 5.5      | 5.8      | 4,200                    | Yes                         |
| Freon 113                       | 20                   | 25       | 22       | 510                      | Yes                         |
| Freon 12                        | 1.2                  | 1.2      | 1.2      | 249                      | Yes                         |
| Isopropyl Alcohol (Isopropanol) | 4.8                  | 4.8      | 4.6      | 29                       | Yes                         |
| o-Xylene                        | 1.2                  | 1.2      | 1.2      | 3                        | Yes                         |
| Methyl ethyl ketone             | 4.8                  | 4.8      | 4.6      | 24                       | Yes                         |
| Methylene chloride              | 12                   | 12       | 12       | 6,900                    | Yes                         |
| Tetrachloroethene (PCE)         | 65                   | 1.2      | 1.2      | 28                       | Yes                         |
| TNMOC ref. to Heptane (MW=100)  | 200                  | 24       | 23       | 4177                     | Yes                         |
| Toluene                         | 1.5                  | 1.2      | 1.2      | 42                       | Yes                         |
| Trichloroethene (TCE)           | 10                   | 1.2      | 1.2      | 12                       | Yes                         |
| Vinyl chloride                  | 1.2                  | 1.2      | 1.2      | 230                      | Yes                         |

Please let us know if you have any questions or wish to discuss these data further.

Thanks!

Alesandra

**Alesandra Reed, PE**

Environmental Engineer

CDM Smith

555 17<sup>th</sup> Street, Suite 500, Denver, CO 80202

(cell) 352.222.2583, (office) 303.383.2475



**From:** Reed, Alesandra F.  
**To:** Merry Coons  
**Subject:** RE: Omega GWCS - November GAC Assessment  
**Date:** Tuesday, February 12, 2019 5:42:22 PM  
**Attachments:** [image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[image006.png](#)

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Merry,

Below is the revised summary table for these data.

| Parameter                       | Concentration (ppbv) |          |          |                    | Below 2015 HRA Limit? |
|---------------------------------|----------------------|----------|----------|--------------------|-----------------------|
|                                 | Influent             | Midpoint | Effluent | HRA Effluent Limit |                       |
| 1,1,1-Trichloroethane (TCA)     | ND                   | ND       | ND       | 3                  | Yes                   |
| 1,1-Dichloroethane              | ND                   | ND       | ND       | 18                 | Yes                   |
| 1,1-Dichloroethene              | 18                   | 18       | 20       | 140                | Yes                   |
| 1,2-Dichloroethane              | ND                   | 1.7      | ND       | 12                 | Yes                   |
| Benzene                         | ND                   | ND       | ND       | 12                 | Yes                   |
| Carbon disulfide                | ND                   | ND       | ND       | 690                | Yes                   |
| Chloroform                      | 6                    | 5.8      | 4.4      | 95                 | Yes                   |
| Freon 11                        | 6.2                  | 5.6      | 5.3      | 4,200              | Yes                   |
| Freon 113                       | 18                   | 22       | 20       | 510                | Yes                   |
| Freon 12                        | ND                   | ND       | ND       | 249                | Yes                   |
| Isopropyl Alcohol (Isopropanol) | ND                   | ND       | ND       | 29                 | Yes                   |
| o-Xylene                        | ND                   | ND       | ND       | 3                  | Yes                   |
| Methyl ethyl ketone             | ND                   | ND       | ND       | 24                 | Yes                   |
| Methylene chloride              | ND                   | ND       | ND       | 6,900              | Yes                   |
| Tetrachloroethene (PCE)         | 69                   | ND       | ND       | 28                 | Yes                   |
| TNMOC ref. to Heptane (MW=100)  | 220                  | 140      | 120      | 4177               | Yes                   |
| Toluene                         | ND                   | ND       | ND       | 42                 | Yes                   |
| Trichloroethene (TCE)           | 11                   | ND       | ND       | 12                 | Yes                   |
| Vinyl chloride                  | ND                   | ND       | ND       | 230                | Yes                   |

ND: Not detected above the quantitation limit

Please let us know if you have any questions or wish to discuss these data further.

Thanks!

Alesandra

---

**From:** Reed, Alesandra F.  
**Sent:** Thursday, December 6, 2018 1:54 PM  
**To:** King Kyle <kking@demaximis.com>; 'jdinello@demaximis.com' <jdinello@demaximis.com>; Coons Merry <mcoons@demaximis.com>  
**Cc:** Bamer, Jeffrey <BamerJT@cdmsmith.com>; Rott, Emilie A. <rottea@cdmsmith.com>; Modiano Ed <edm@demaximis.com>  
**Subject:** Omega GWCS - November GAC Assessment

Team,

We evaluated the performance of the GAC used by the GWCS for the month of November 2018, relative to the conditions listed in the Health Risk Assessment (HRA) (CDM Smith 2015). These conditions must be met to remain in substantive compliance with SCAQMD requirements.

So far during the month of November, the GWCS system has met the conditions presented in the HRA and is therefore substantively compliant:

- None of the toxic air contaminants listed in Condition #14 of the HRA were detected in the effluent above their respective effluent limit (see table below).
- The GWCS did not meet the two criteria for replacement of the lead GAC vessel (listed under Condition #12 of the HRA), and therefore no GAC replacement was required.
- No other carcinogenic air contaminants beyond those listed in Condition #14 of the HRA were detected in effluent above 10 ppbv, and therefore per Condition #16, no toxic risk assessment was required.

We also evaluated all the analytical and PID data and, based on our professional judgement, we do not recommend a voluntary changeout of the lead vessel GAC at this time.

| Parameter                       | Concentration (ppbv) |          |          |                          | Below<br>2015 HRA<br>Limit? |
|---------------------------------|----------------------|----------|----------|--------------------------|-----------------------------|
|                                 | Influent             | Midpoint | Effluent | HRA<br>Effluent<br>Limit |                             |
|                                 |                      |          |          |                          |                             |
| 1,1,1-Trichloroethane (TCA)     | 1.1                  | 1.1      | 1.3      | 3                        | Yes                         |
| 1,1-Dichloroethane              | 1.1                  | 1.1      | 1.3      | 18                       | Yes                         |
| 1,1-Dichloroethene              | 18                   | 18       | 20       | 140                      | Yes                         |
| 1,2-Dichloroethane              | 1.1                  | 1.7      | 1.3      | 12                       | Yes                         |
| Benzene                         | 1.1                  | 1.1      | 1.3      | 12                       | Yes                         |
| Carbon disulfide                | 4.5                  | 4.4      | 5.2      | 690                      | Yes                         |
| Chloroform                      | 6                    | 5.8      | 4.4      | 95                       | Yes                         |
| Freon 11                        | 6.2                  | 5.6      | 5.3      | 4,200                    | Yes                         |
| Freon 113                       | 18                   | 22       | 20       | 510                      | Yes                         |
| Freon 12                        | 1.1                  | 1.1      | 1.3      | 249                      | Yes                         |
| Isopropyl Alcohol (Isopropanol) | 4.5                  | 4.4      | 5.2      | 29                       | Yes                         |
| o-Xylene                        | 1.1                  | 1.1      | 1.3      | 3                        | Yes                         |
| Methyl ethyl ketone             | 4.5                  | 4.4      | 5.2      | 24                       | Yes                         |
| Methylene chloride              | 11                   | 11       | 13       | 6,900                    | Yes                         |
| Tetrachloroethene (PCE)         | 69                   | 1.1      | 1.3      | 28                       | Yes                         |
| TNMOC ref. to Heptane (MW=100)  | 220                  | 140      | 120      | 4,177                    | Yes                         |
| Toluene                         | 1.1                  | 1.1      | 1.3      | 42                       | Yes                         |
| Trichloroethene (TCE)           | 11                   | 1.1      | 1.3      | 12                       | Yes                         |
| Vinyl chloride                  | 1.1                  | 1.1      | 1.3      | 230                      | Yes                         |

Please let us know if you have any questions or wish to discuss these data further.

Thanks!

CDM Smith  
555 17<sup>th</sup> Street, Suite 500, Denver, CO 80202  
(cell) 352.222.2583, (office) 303.383.2475



**From:** Reed, Alesandra F.  
**To:** Merry Coons  
**Subject:** RE: Omega GWCS - December GAC Assessment  
**Date:** Tuesday, February 12, 2019 5:43:44 PM  
**Attachments:** [image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[image006.png](#)

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Merry,

Below is the revised summary table for these data.

| Parameter                       | Concentration (ppbv) |          |          |                    | Below 2015 HRA Limit? |
|---------------------------------|----------------------|----------|----------|--------------------|-----------------------|
|                                 | Influent             | Midpoint | Effluent | HRA Effluent Limit |                       |
| 1,1,1-Trichloroethane (TCA)     | ND                   | ND       | ND       | 3                  | Yes                   |
| 1,1-Dichloroethane              | ND                   | ND       | ND       | 18                 | Yes                   |
| 1,1-Dichloroethene              | 15                   | 12       | 13       | 140                | Yes                   |
| 1,2-Dichloroethane              | ND                   | 1.2      | ND       | 12                 | Yes                   |
| Benzene                         | ND                   | ND       | ND       | 12                 | Yes                   |
| Carbon disulfide                | ND                   | ND       | ND       | 690                | Yes                   |
| Chloroform                      | 4.4                  | 4        | 2.8      | 95                 | Yes                   |
| Freon 11                        | 5.4                  | 4.4      | 4.1      | 4200               | Yes                   |
| Freon 113                       | 22                   | 17       | 16       | 510                | Yes                   |
| Freon 12                        | ND                   | ND       | ND       | 249                | Yes                   |
| Isopropyl Alcohol (Isopropanol) | ND                   | ND       | ND       | 29                 | Yes                   |
| o-Xylene                        | ND                   | ND       | ND       | 3                  | Yes                   |
| Methyl ethyl ketone             | ND                   | ND       | ND       | 24                 | Yes                   |
| Methylene chloride              | ND                   | ND       | ND       | 6900               | Yes                   |
| Tetrachloroethene (PCE)         | 62                   | ND       | ND       | 28                 | Yes                   |
| TNMOC ref. to Heptane (MW=100)  | 110                  | ND       | 34       | 4177               | Yes                   |
| Toluene                         | ND                   | ND       | ND       | 42                 | Yes                   |
| Trichloroethene (TCE)           | 9.1                  | ND       | ND       | 12                 | Yes                   |
| Vinyl chloride                  | ND                   | ND       | ND       | 230                | Yes                   |

ND: Not detected above the quantitation limit

Please let us know if you have any questions or wish to discuss these data further.

Thanks!

Alesandra

---

**From:** Reed, Alesandra F.  
**Sent:** Tuesday, January 15, 2019 12:48 PM  
**To:** 'jdinello@demaximis.com' <jdinello@demaximis.com>; Kyle King <kking@demaximis.com>; Merry Coons <mcoons@demaximis.com>  
**Cc:** Ed Modiano <edm@demaximis.com>; Bamer, Jeffrey <BamerJT@cdmsmith.com>  
**Subject:** Omega GWCS - December GAC Assessment

Team,

We evaluated the performance of the GAC used by the GWCS for the month of December 2018, relative to the conditions listed in the Health Risk Assessment (HRA) (CDM Smith 2015). These conditions must be met to remain in substantive compliance with SCAQMD requirements.

During the month of December, the GWCS system met the conditions presented in the HRA and is therefore substantively compliant:

- None of the toxic air contaminants listed in Condition #14 of the HRA were detected in the effluent above their respective effluent limit (see table below).
- The GWCS did not meet the two criteria for replacement of the lead GAC vessel (listed under Condition #12 of the HRA), and therefore no GAC replacement was required.
- No other carcinogenic air contaminants beyond those listed in Condition #14 of the HRA were detected in effluent above 10 ppbv, and therefore per Condition #16, no toxic risk assessment was required.

We also evaluated all the analytical and PID data and, based on our professional judgement, we do not recommend a voluntary changeout of the lead vessel GAC at this time.

| Parameter                       | Concentration (ppbv) |          |          |                    | Below 2015 HRA Limit? |
|---------------------------------|----------------------|----------|----------|--------------------|-----------------------|
|                                 | Influent             | Midpoint | Effluent | HRA Effluent Limit |                       |
| 1,1,1-Trichloroethane (TCA)     | 1.1                  | 1.1      | 1.1      | 3                  | Yes                   |
| 1,1-Dichloroethane              | 1.1                  | 1.1      | 1.1      | 18                 | Yes                   |
| 1,1-Dichloroethene              | 15                   | 12       | 13       | 140                | Yes                   |
| 1,2-Dichloroethane              | 1.1                  | 1.2      | 1.1      | 12                 | Yes                   |
| Benzene                         | 1.1                  | 1.1      | 1.1      | 12                 | Yes                   |
| Carbon disulfide                | 4.5                  | 4.6      | 4.3      | 690                | Yes                   |
| Chloroform                      | 4.4                  | 4        | 2.8      | 95                 | Yes                   |
| Freon 11                        | 5.4                  | 4.4      | 4.1      | 4,200              | Yes                   |
| Freon 113                       | 22                   | 17       | 16       | 510                | Yes                   |
| Freon 12                        | 1.1                  | 1.1      | 1.1      | 249                | Yes                   |
| Isopropyl Alcohol (Isopropanol) | 4.5                  | 4.6      | 4.3      | 29                 | Yes                   |
| o-Xylene                        | 1.1                  | 1.1      | 1.1      | 3                  | Yes                   |
| Methyl ethyl ketone             | 4.5                  | 4.6      | 4.3      | 24                 | Yes                   |
| Methylene chloride              | 11                   | 11       | 11       | 6,900              | Yes                   |
| Tetrachloroethene (PCE)         | 62                   | 1.1      | 1.1      | 28                 | Yes                   |
| TNMOC ref. to Heptane (MW=100)  | 110                  | 23       | 34       | 4177               | Yes                   |
| Toluene                         | 1.1                  | 1.1      | 1.1      | 42                 | Yes                   |
| Trichloroethene (TCE)           | 9.1                  | 1.1      | 1.1      | 12                 | Yes                   |
| Vinyl chloride                  | 1.1                  | 1.1      | 1.1      | 230                | Yes                   |

Please let us know if you have any questions or wish to discuss these data further.

Thanks!

**Alesandra Reed, PE**

Environmental Engineer

CDM Smith

555 17<sup>th</sup> Street, Suite 500, Denver, CO 80202

(cell) 352.222.2583, (office) 303.383.2475



## **ATTACHMENT F**

# **Sanitation District of Los Angeles County Industrial Self-Monitoring Report**

**OMEGA CHEMICAL SITE PRP ORGANIZED GROUP**

---

1322 Scott Street, Suite 104  
San Diego, Ca 92106  
(619) 546-8377  
(619) 546-9980 FAX  
e-mail: [edm@demaximis.com](mailto:edm@demaximis.com)

January 15, 2019

Ms. Grace Robinson Hyde  
Chief Engineer and General Manager  
County Sanitation Districts of Los Angeles County  
1955 Workman Mill Road  
Whittier, CA 90601-1400

Subject:        Self-Monitoring Report -4th Quarter 2018  
                  Permit Number 20039, Surcharge Account Number 2113183

Dear Ms. Grace Robinson Hyde,

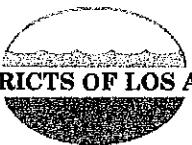
This letter transmits the 4th Quarter 2018 Self-Monitoring Report (SMR) for the Omega Chemical Site located at 12520 East Whittier Blvd, Whittier, California. Feel free to contact me if you need any additional information.

Sincerely,

Omega Chemical Site PRP Organized Group



Edward Modiano  
Project Coordinator

For information, please call Loretta Benites  
(562) 699-7411 Ext. 2927

## INDUSTRIAL WASTEWATER SELF MONITORING REPORT

Reporting Period From: 10/01/2018 To: 12/31/2018 Report Due No Later Than : 01/15/2019

Company Name: Omega Chemical Site PRP Group LLC

Wastewater Discharge Address: 12520 WHITTIER Blvd Whittier, CA, 90602

Sample Location: 20039A

Mailing Address: 1322 Scott Street # 104 San Diego, CA, 92106

Industrial Wastewater Contact Name and Phone Number: Mr. Ravi Subramanian

949-752-5452 x277 - Business

Has Ownership or Occupancy Changed Since the Last Report?  Yes  No

(Print) Name of Company Collecting Wastewater Sample:

(Print) Sample Date:

Test America

Daily Wastewater Discharge for Reporting Period

Average: 6,623 GPD

Maximum: 9,577 GPD

Method For Determining Wastewater Flow for Sampling Day

 Direct Measurement Adjusted Metered Water Supply No Discharge During Reporting Period

Type of Composite Sample

 Time Composite Flow Proportioned Composite

Comments:

| Parameter (1)             | Sample Method (2) | Permit Limit (3)   | Test Results (4)             | Reporting Limit (5) | Unit (6) | Lab ID Code (7) |
|---------------------------|-------------------|--|------------------------------|---------------------|----------|-----------------|
| Z02 Sample Day Peak Flow  |                   |  | 19                           |                     | gpm      | 10256           |
| Z01 Sample Day Total Flow |                   |  | 4,287                        |                     | GPD      | 10256           |
| 101 pH                    | GRAB              | Federal Daily Minimum 5.0 S.U.<br>Local Daily Minimum 6.0 S.U. | 8.5                          |                     | S.U.     | 10256           |
| 151 Solids, Suspended     | COMPOSITE         |  | ND                           | 1.0                 | mg/L     | 10256           |
| 252 Sulfide, Soluble      | GRAB              | Local At Any Time 0.1 mg/L                                     | ND                           | 0.05                | mg/L     | 10256           |
| 403 COD, Total            | COMPOSITE         |  | 98                           |                     | mg/L     | 10256           |
| 696 1,4-Dioxane           | GRAB              |  | 11                           |                     | ug/L     | 10256           |
| T09 TTO, Volatile         | GRAB              | Local At Any Time 1000 ug/L                                    | LACSD calculates this value. |                     | ug/L     | 10256           |
| 601 Methylene Chloride    | GRAB              |  | ND                           | 5                   | ug/L     | 10256           |
| 602 Chloroform            | GRAB              |  | ND                           | 1.0                 | ug/L     | 10256           |
| 603 1,1,1-Trichloroethane | GRAB              |  | ND                           | 1.0                 | ug/L     | 10256           |
| 604 Carbon Tetrachloride  | GRAB              |  | ND                           | 0.5                 | ug/L     | 10256           |
| 605 1,1-Dichloroethene    | GRAB              |  | ND                           | 1.0                 | ug/L     | 10256           |
| 606 Trichloroethylene     | GRAB              |  | ND                           | 1.0                 | ug/L     | 10256           |
| 607 Tetrachloroethylene   | GRAB              |  | ND                           | 1.0                 | ug/L     | 10256           |
| 608 Bromodichloromethane  | GRAB              |  | ND                           | 1.0                 | ug/L     | 10256           |
| 609 Dibromochloromethane  | GRAB              |  | ND                           | 1.0                 | ug/L     | 10256           |
| 610 Bromoform             | GRAB              |  | ND                           | 1.0                 | ug/L     | 10256           |
| 611 Chlorobenzene         | GRAB              |  | ND                           | 1.0                 | ug/L     | 10256           |
| 612 Vinyl Chloride        | GRAB              |  | ND                           | 0.5                 | ug/L     | 10256           |
| 613 o-Dichlorobenzene     | GRAB              |  | ND                           | 1.0                 | ug/L     | 10256           |
| 614 m-Dichlorobenzene     | GRAB              |  | ND                           | 1.0                 | ug/L     | 10256           |

# INDUSTRIAL WASTEWATER SELF MONITORING REPORT

Report due no later than : 01/15/2019

Page 2 of 4  
 Permit Number:  
 20039  
 Facility ID:  
 2113183

Company Name: Omega Chemical Site PRP Group LLC

Sample Location: 20039A Reporting Period From: 10/01/2018 To: 12/31/2018

| <u>Parameter (1)</u>            | <u>Sample Method (2)</u> | <u>Permit Limit (3)</u>     | <u>Test Results (4)</u>      | <u>Reporting Limit (5)</u> | <u>Unit (6)</u> | <u>Lab ID Code (7)</u> |
|---------------------------------|--------------------------|-----------------------------|------------------------------|----------------------------|-----------------|------------------------|
| 615 p-Dichlorobenzene           | GRAB                     |                             | ND                           | 1.0                        | ug/L            | 1025b                  |
| 616 1,1-Dichloroethane          | GRAB                     |                             | ND                           | 1.0                        | ug/L            | 1025b                  |
| 618 1,1,2-Trichloroethane       | GRAB                     |                             | ND                           | 1.0                        | ug/L            | 1025b                  |
| 619 1,2-Dichloroethane          | GRAB                     |                             | ND                           | 1.0                        | ug/L            | 1025b                  |
| 620 Benzene                     | GRAB                     |                             | ND                           | 0.5                        | ug/L            | 1025b                  |
| 621 Toluene                     | GRAB                     |                             | ND                           | 1.0                        | ug/L            | 1025b                  |
| 624 Ethyl Benzene               | GRAB                     |                             | ND                           | 1.0                        | ug/L            | 1025b                  |
| 645 trans-1,2-Dichloroethylene  | GRAB                     |                             | ND                           | 1.0                        | ug/L            | 1025b                  |
| 646 Bromomethane                | GRAB                     |                             | ND                           | 1.0                        | ug/L            | 1025b                  |
| 647 Chloroethane                | GRAB                     |                             | ND                           | 1.0                        | ug/L            | 1025b                  |
| 648 2-Chloroethylvinylether     | GRAB                     |                             | ND                           | 2.0                        | ug/L            | 1025b                  |
| 649 Chloromethane               | GRAB                     |                             | ND                           | 1.0                        | ug/L            | 1025b                  |
| 650 1,2-Dichloropropane         | GRAB                     |                             | ND                           | 1.0                        | ug/L            | 1025b                  |
| 651 cis-1,3-Dichloropropene     | GRAB                     |                             | ND                           | 0.5                        | ug/L            | 1025b                  |
| 652 trans-1,3-Dichloropropene   | GRAB                     |                             | ND                           | 0.5                        | ug/L            | 1025b                  |
| 653 1,1,2,2-Tetrachloroethane   | GRAB                     |                             | ND                           | 1.0                        | ug/L            | 1025b                  |
| T10 TTO, Semi-Volatile          | GRAB                     | Local At Any Time 1000 ug/L | LACSD calculates this value. |                            | ug/L            |                        |
| 800 Acenaphthene                | GRAB                     |                             | ND                           | 9.9                        | ug/L            | 1025b                  |
| 801 Acenaphthylene              | GRAB                     |                             | ND                           | 9.9                        | ug/L            | 1025b                  |
| 802 Anthracene                  | GRAB                     |                             | ND                           | 9.9                        | ug/L            | 1025b                  |
| 803 Benzidine                   | GRAB                     |                             | ND                           | 40                         | ug/L            | 1025b                  |
| 804 Benzo(a)anthracene          | GRAB                     |                             | ND                           | 9.9                        | ug/L            | 1025b                  |
| 805 Benzo(a)pyrene              | GRAB                     |                             | ND                           | 9.9                        | ug/L            | 1025b                  |
| 806 Benzo(b)fluoranthene        | GRAB                     |                             | ND                           | 9.9                        | ug/L            | 1025b                  |
| 807 Benzo(g,h,i)perylene        | GRAB                     |                             | ND                           | 9.9                        | ug/L            | 1025b                  |
| 808 Benzo(k)fluoranthene        | GRAB                     |                             | ND                           | 9.9                        | ug/L            | 1025b                  |
| 809 Bis(2-cl-ethoxy)methane     | GRAB                     |                             | ND                           | 9.1                        | ug/L            | 1025b                  |
| 810 Bis(2-chloroethyl)ether     | GRAB                     |                             | ND                           | 9.9                        | ug/L            | 1025b                  |
| 811 Bis(2-cl-isopropyl)ether    | GRAB                     |                             | ND                           | 9.9                        | ug/L            | 1025b                  |
| 812 bis(2-ethylhexyl) Phthalate | GRAB                     |                             | ND                           | 20                         | ug/L            | 1025b                  |
| 813 4-bromophenyl Phenylether   | GRAB                     |                             | ND                           | 9.9                        | ug/L            | 1025b                  |
| 814 butylbenzyl Phthalate       | GRAB                     |                             | ND                           | 20                         | ug/L            | 1025b                  |
| 815 2-Chloronaphthalene         | GRAB                     |                             | ND                           | 9.9                        | ug/L            | 1025b                  |
| 816 4-Chlorophenylphenylethe    | GRAB                     |                             | ND                           | 9.9                        | ug/L            | 1025b                  |
| 817 Chrysene                    | GRAB                     |                             | ND                           | 9.9                        | ug/L            | 1025b                  |
| 818 dibenzo(a,h)Anthracene      | GRAB                     |                             | ND                           | 20                         | ug/L            | 1025b                  |
| 822 3,3-Dichlorobenzidine       | GRAB                     |                             | ND                           | 40                         | ug/L            | 1025b                  |
| 823 diethyl Phthalate           | GRAB                     |                             | ND                           | 9.9                        | ug/L            | 1025b                  |

## INDUSTRIAL WASTEWATER SELF MONITORING REPORT

Report due no later than : 01/15/2019

Page 3 of 4

Permit Number:

20039

Facility ID:

2113183

Company Name: Omega Chemical Site PRP Group LLC

Sample Location: 20039A Reporting Period From: 10/01/2018 To: 12/31/2018

| <u>Parameter (1)</u>                         | <u>Sample Method (2)</u> | <u>Permit Limit (3)</u> | <u>Test Results (4)</u> | <u>Reporting Limit (5)</u> | <u>Unit (6)</u> | <u>Lab ID Code (7)</u> |
|--|--------------------------|-------------------------|-------------------------|----------------------------|-----------------|------------------------|
| 824 dimethyl Phthalate                       | GRAB                     |                         | ND                      | 9.9                        | ug/L            | 1025b                  |
| 825 di-n-butyl Phthalate                     | GRAB                     |                         | ND                      | 20                         | ug/L            | 1025b                  |
| 826 2,4-Dinitrotoluene                       | GRAB                     |                         | ND                      | 9.9                        | ug/L            | 1025b                  |
| 827 2,6-Dinitrotoluene                       | GRAB                     |                         | ND                      | 9.9                        | ug/L            | 1025b                  |
| 828 di-n-octyl Phthalate                     | GRAB                     |                         | ND                      | 20                         | ug/L            | 1025b                  |
| 829 1,2-Diphenylhydrazine                    | GRAB                     |                         | ND                      | 20                         | ug/L            | 1025b                  |
| 830 Fluoranthene                             | GRAB                     |                         | ND                      | 9.9                        | ug/L            | 1025b                  |
| 831 Fluorene                                 | GRAB                     |                         | ND                      | 9.9                        | ug/L            | 1025b                  |
| 832 Hexachlorobenzene                        | GRAB                     |                         | ND                      | 9.9                        | ug/L            | 1025b                  |
| 833 Hexachlorobutadiene                      | GRAB                     |                         | ND                      | 20                         | ug/L            | 1025b                  |
| 834 Hexachlorocyclopentadiene                | GRAB                     |                         | ND                      | 9.9                        | ug/L            | 1025b                  |
| 835 Hexachloroethane                         | GRAB                     |                         | ND                      | 20                         | ug/L            | 1025b                  |
| 836 Indeno(1,2,3-c,d)Pyrene                  | GRAB                     |                         | ND                      | 9.9                        | ug/L            | 1025b                  |
| 837 Isophorone                               | GRAB                     |                         | ND                      | 9.9                        | ug/L            | 1025b                  |
| 838 Naphthalene                              | GRAB                     |                         | ND                      | 20                         | ug/L            | 1025                   |
| 839 Nitrobenzene                             | GRAB                     |                         | ND                      | 9.9                        | ug/L            | 1025b                  |
| 840 n-Nitrosodimethylamine                   | GRAB                     |                         | ND                      | 9.9                        | ug/L            | 1025b                  |
| 841 n-Nitrosodi-n-Propylamine                | GRAB                     |                         | ND                      | 9.9                        | ug/L            | 1025b                  |
| 842 Phenanthrene                             | GRAB                     |                         | ND                      | 9.9                        | ug/L            | 1025b                  |
| 843 Pyrene                                   | GRAB                     |                         | ND                      | 9.9                        | ug/L            | 1025b                  |
| 845 2-Chlorophenol<br>(Organic-BNA)          | GRAB                     |                         | ND                      | 9.9                        | ug/L            | 1025b                  |
| 846 1,2,4-Trichlorobenzene                   | GRAB                     |                         | ND                      | 9.9                        | ug/L            | 1025b                  |
| 847 2,4-Dichlorophenol<br>(Organic-BNA)      | GRAB                     |                         | ND                      | 20                         | ug/L            | 1025b                  |
| 848 2,4-Dimethylphenol<br>(Organic-BNA)      | GRAB                     |                         | ND                      | 20                         | ug/L            | 1025b                  |
| 849 2,4-Dinitrophenol                        | GRAB                     |                         | ND                      | 40                         | ug/L            | 1025b                  |
| 850 2-methyl-4,6-dinitrophenol               | GRAB                     |                         | ND                      | 9.9                        | ug/L            | 1025b                  |
| 851 2-Nitrophenol                            | GRAB                     |                         | ND                      | 20                         | ug/L            | 1025b                  |
| 852 4-Nitrophenol                            | GRAB                     |                         | ND                      | 20                         | ug/L            | 1025b                  |
| 853 4-chloro-3-Methylphenol<br>(Organic-BNA) | GRAB                     |                         | ND                      | 20                         | ug/L            | 1025b                  |
| 854 Pentachlorophenol<br>(Organic-BNA)       | GRAB                     |                         | ND                      | 20                         | ug/L            | 1025b                  |
| 855 Phenol                                   | GRAB                     |                         | ND                      | 9.9                        | ug/L            | 1025b                  |
| 856 2,4,6-Trichlorophenol                    | GRAB                     |                         | ND                      | 20                         | ug/L            | 1025b                  |
| 857 n-Nitrosodiphenylamine                   | GRAB                     |                         | ND                      | 9.9                        | ug/L            | 1025b                  |

# INDUSTRIAL WASTEWATER SELF MONITORING REPORT

Report due no later than : 01/15/2019

Page 4 of 4

Permit Number:

20039

Facility ID:

2113183

Company Name: Omega Chemical Site PRP Group LLC

Sample Location: 20039A Reporting Period From: 10/01/2018 To: 12/31/2018

- (1) Report the test results from the most recent sample collected within the reporting period and include all laboratory test sheets with the selfmonitoring report form.
- (2) Test results are valid only if the correct sampling method is observed and the laboratory analysis is performed by a State or Sanitation Districts approved laboratory.
- (3) Permit limits are included on this form for convenience. For a full list of all applicable permit limits, refer to your Permit Data Sheet.
- (4) Enter "ND" (Non Detect) for any result less than (<) the reporting limit.
- (5) If the test result is "ND", enter the reporting limit; otherwise leave blank. The reporting limit can be found in your laboratory test sheet.
- (6) Default units are listed. Cross out and write in applicable units if laboratory did not report results with these same units.
- (7) Indicate the appropriate laboratory certification I.D. code for each testing parameter.

## CERTIFICATION BY PERMITTEE

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of responsible company official:

*Katie Lewis*

Date:

1/15/19

Print name of official:

*Katie Lewis*

Title:

*Project manager on Behalf of OPG*

LACSD USE ONLY

Monitoring ID: 558542

Lab Report?  Yes  No Signature?  Yes  No Date Received: \_\_\_\_\_

Initials: \_\_\_\_\_

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

[TestAmerica Job ID: 440-224565-1](#)

TestAmerica Sample Delivery Group: Whittier

Client Project/Site: Omega Chemical Wastewater

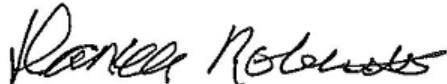
For:

Jacob & Hefner Associates P.C.

15375 Barranca Parkway, J-101

Irvine, California 92618

Attn: Trent Henderson



Authorized for release by:

11/29/2018 4:12:16 PM

Danielle Roberts, Senior Project Manager

(949)261-1022

[danielle.roberts@testamericainc.com](mailto:danielle.roberts@testamericainc.com)

### LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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## Sample Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 440-224565-1  | Composite        | Water  | 11/16/18 08:30 | 11/16/18 11:45 |
| 440-224565-2  | Grab             | Water  | 11/16/18 08:40 | 11/16/18 11:45 |

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TestAmerica Irvine

# Case Narrative

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Job ID: 440-224565-1

### Laboratory: TestAmerica Irvine

#### Narrative

#### Job Narrative 440-224565-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/16/2018 11:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.4° C.

#### GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270C: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 440-512081 and analytical batch 440-512621 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine, 4-Chloroaniline and 3-Nitroaniline.

Method(s) 8270C: The percent recovery in the laboratory control sample (LCS) is below acceptance limits for 3,3'-Dichlorobenzidine and 4-Chloroaniline. These compounds are poor performers and yields erratic recoveries. The results are reported as possible biased low.

(LCS 440-512081/2-A)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Field Service / Mobile Lab

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### General Chemistry

Method(s) SM 4500 S2 D: The matrix spike duplicate (MSD) recoveries for preparation batch 440-512770 and analytical batch 440-512779 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 S2 D: Reanalysis of the following samples were performed outside of the analytical holding time due to sample's initial result was out of historical data Grab (440-224565-2) and (440-224565-J-2-B DU).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

Method(s) 3520C, 8270: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 3520C\_8270C preparation batch 440-512081.

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 3520C\_8270C-1,4-DXNpreparation batch 440-512451.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Detection Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

### Client Sample ID: Composite

### Lab Sample ID: 440-224565-1

| Analyte                | Result | Qualifier | RL | Unit | Dil Fac | D | Method   | Prep Type |
|------------------------|--------|-----------|----|------|---------|---|----------|-----------|
| Chemical Oxygen Demand | 98     |           | 20 | mg/L | 1       |   | SM 5220D | Total/NA  |

### Client Sample ID: Grab

### Lab Sample ID: 440-224565-2

| Analyte           | Result | Qualifier | RL   | Unit    | Dil Fac | D | Method         | Prep Type |
|-------------------|--------|-----------|------|---------|---------|---|----------------|-----------|
| Acetone - RA      | 50     |           | 10   | ug/L    | 1       |   | 8260B          | Total/NA  |
| 1,4-Dioxane       | 11     |           | 0.49 | ug/L    | 1       |   | 8270C SIM      | Total/NA  |
| pH                | 8.5    | HF        | 0.1  | SU      | 1       |   | SM 4500 H+ B   | Total/NA  |
| Field pH          | 8.51   |           |      | SU      | 1       |   | Field Sampling | Total/NA  |
| Field Temperature | 11.5   |           |      | Celsius | 1       |   | Field Sampling | Total/NA  |

This Detection Summary does not include radiochemical test results.

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Client Sample ID: Composite

Date Collected: 11/16/18 08:30  
Date Received: 11/16/18 11:45

## Lab Sample ID: 440-224565-1

Matrix: Water

### General Chemistry

| Analyte                | Result | Qualifier | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------|--------|-----------|-----|------|---|----------|----------------|---------|
| Total Suspended Solids | ND     |           | 1.0 | mg/L |   |          | 11/21/18 21:42 | 1       |
| Chemical Oxygen Demand | 98     |           | 20  | mg/L |   |          | 11/26/18 15:14 | 1       |

## Client Sample ID: Grab

Date Collected: 11/16/18 08:40  
Date Received: 11/16/18 11:45

## Lab Sample ID: 440-224565-2

Matrix: Water

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte                               | Result | Qualifier | RL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|--------|-----------|------|------|---|----------|----------------|---------|
| 1,1,1,2-Tetrachloroethane             | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,1,1-Trichloroethane                 | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 2-Chloroethyl vinyl ether             | ND     |           | 2.0  | ug/L |   |          | 11/19/18 23:32 | 1       |
| 1,1,2,2-Tetrachloroethane             | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND     |           | 5.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Acrolein                              | ND     |           | 5.0  | ug/L |   |          | 11/19/18 23:32 | 1       |
| 1,1,2-Trichloroethane                 | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Acrylonitrile                         | ND     |           | 2.0  | ug/L |   |          | 11/19/18 23:32 | 1       |
| 1,1-Dichloroethane                    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,1-Dichloroethene                    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,1-Dichloropropene                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Total Volatile Organic Compounds      | ND     |           | 150  | ug/L |   |          | 11/19/18 23:32 | 1       |
| 1,2,3-Trichlorobenzene                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,2,3-Trichloropropane                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,2,4-Trichlorobenzene                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,2,4-Trimethylbenzene                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,2-Dibromo-3-Chloropropane           | ND     |           | 5.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,2-Dibromoethane (EDB)               | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,2-Dichlorobenzene                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,2-Dichloroethane                    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,2-Dichloropropane                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,3,5-Trimethylbenzene                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,3-Dichlorobenzene                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,3-Dichloropropane                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 1,4-Dichlorobenzene                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 2,2-Dichloropropane                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 2-Chlorotoluene                       | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| 4-Chlorotoluene                       | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Benzene                               | ND     |           | 0.50 | ug/L |   |          | 11/24/18 19:38 | 1       |
| Bromobenzene                          | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Bromochloromethane                    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Bromodichloromethane                  | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Bromoform                             | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Bromomethane                          | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Carbon tetrachloride                  | ND     |           | 0.50 | ug/L |   |          | 11/24/18 19:38 | 1       |
| Chlorobenzene                         | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Chloroethane                          | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Chloroform                            | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Chloromethane                         | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| cis-1,2-Dichloroethene                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

## Client Sample ID: Grab

Date Collected: 11/16/18 08:40  
 Date Received: 11/16/18 11:45

## Lab Sample ID: 440-224565-2

Matrix: Water

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                     | Result | Qualifier | RL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|------|------|---|----------|----------------|---------|
| cis-1,3-Dichloropropene     | ND     |           | 0.50 | ug/L |   |          | 11/24/18 19:38 | 1       |
| Dibromochloromethane        | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Dibromomethane              | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Dichlorodifluoromethane     | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Ethylbenzene                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Hexachlorobutadiene         | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Isopropyl alcohol           | ND     |           | 250  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Isopropylbenzene            | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| m,p-Xylene                  | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Methylene Chloride          | ND     |           | 5.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Methyl-t-Butyl Ether (MTBE) | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Naphthalene                 | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| n-Butylbenzene              | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| N-Propylbenzene             | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| o-Xylene                    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| p-Isopropyltoluene          | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| sec-Butylbenzene            | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Styrene                     | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| tert-Butylbenzene           | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Tetrachloroethene           | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Toluene                     | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| trans-1,2-Dichloroethene    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| trans-1,3-Dichloropropene   | ND     |           | 0.50 | ug/L |   |          | 11/24/18 19:38 | 1       |
| Trichloroethene             | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Trichlorofluoromethane      | ND     |           | 1.0  | ug/L |   |          | 11/24/18 19:38 | 1       |
| Vinyl chloride              | ND     |           | 0.50 | ug/L |   |          | 11/24/18 19:38 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 99        |           | 70 - 130 |          | 11/19/18 23:32 | 1       |
| 4-Bromofluorobenzene (Surr)  | 97        |           | 80 - 120 |          | 11/19/18 23:32 | 1       |
| Dibromofluoromethane (Surr)  | 103       |           | 76 - 132 |          | 11/19/18 23:32 | 1       |
| Toluene-d8 (Surr)            | 101       |           | 80 - 128 |          | 11/19/18 23:32 | 1       |
| 1,2-Dichloroethane-d4 (Surr) | 101       |           | 70 - 130 |          | 11/24/18 19:38 | 1       |
| 4-Bromofluorobenzene (Surr)  | 100       |           | 80 - 120 |          | 11/24/18 19:38 | 1       |
| Dibromofluoromethane (Surr)  | 102       |           | 76 - 132 |          | 11/24/18 19:38 | 1       |
| Toluene-d8 (Surr)            | 107       |           | 80 - 128 |          | 11/24/18 19:38 | 1       |

### Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------|--------|-----------|----|------|---|----------|----------------|---------|
| Acetone | 50     |           | 10 | ug/L |   |          | 11/26/18 11:31 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 126       |           | 70 - 130 |          | 11/26/18 11:31 | 1       |
| 4-Bromofluorobenzene (Surr)  | 89        |           | 80 - 120 |          | 11/26/18 11:31 | 1       |
| Dibromofluoromethane (Surr)  | 117       |           | 76 - 132 |          | 11/26/18 11:31 | 1       |
| Toluene-d8 (Surr)            | 100       |           | 80 - 128 |          | 11/26/18 11:31 | 1       |

### Method: 8270C SIM - 1,4 Dioxane by SIM

| Analyte     | Result | Qualifier | RL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-------------|--------|-----------|------|------|---|----------------|----------------|---------|
| 1,4-Dioxane | 11     |           | 0.49 | ug/L |   | 11/20/18 12:23 | 11/21/18 15:50 | 1       |

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Client Sample ID: Grab

Date Collected: 11/16/18 08:40  
Date Received: 11/16/18 11:45

## Lab Sample ID: 440-224565-2

Matrix: Water

| Surrogate             | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------|-----------|-----------|----------|----------------|----------------|---------|
| 1,4-Dioxane-d8 (Surr) | 55        |           | 27 - 120 | 11/20/18 12:23 | 11/21/18 15:50 | 1       |

### Method: 8270C - Semivolatile Organic Compounds (GC/MS)

| Analyte                              | Result | Qualifier | RL  | Unit | D              | Prepared       | Analyzed | Dil Fac |
|--------------------------------------|--------|-----------|-----|------|----------------|----------------|----------|---------|
| 1,2,4-Trichlorobenzene               | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 1,2-Dichlorobenzene                  | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 1,2-Diphenylhydrazine(as Azobenzene) | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 1,3-Dichlorobenzene                  | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 1,4-Dichlorobenzene                  | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2,4,5-Trichlorophenol                | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2,4,6-Trichlorophenol                | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2,4-Dichlorophenol                   | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2,4-Dimethylphenol                   | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2,4-Dinitrophenol                    | ND     |           | 40  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2,4-Dinitrotoluene                   | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2,6-Dinitrotoluene                   | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2-Chloronaphthalene                  | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2-Chlorophenol                       | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2-Methylnaphthalene                  | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2-Methylphenol                       | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2-Nitroaniline                       | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 2-Nitrophenol                        | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 3,3'-Dichlorobenzidine               | ND *   |           | 40  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 3-Methylphenol + 4-Methylphenol      | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 3-Nitroaniline                       | ND *   |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 4,6-Dinitro-2-methylphenol           | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 4-Bromophenyl phenyl ether           | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 4-Chloro-3-methylphenol              | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 4-Chloroaniline                      | ND *   |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 4-Chlorophenyl phenyl ether          | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 4-Nitroaniline                       | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| 4-Nitrophenol                        | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Acenaphthene                         | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Acenaphthylene                       | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Aniline                              | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Anthracene                           | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Benzidine                            | ND     |           | 40  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Benzo[a]anthracene                   | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Benzo[a]pyrene                       | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Benzo[b]fluoranthene                 | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Benzo[g,h,i]perylene                 | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Benzo[k]fluoranthene                 | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Benzoic acid                         | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Benzyl alcohol                       | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| bis (2-chloroisopropyl) ether        | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Bis(2-chloroethoxy)methane           | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Bis(2-chloroethyl)ether              | ND     |           | 9.9 | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Bis(2-ethylhexyl) phthalate          | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |
| Butyl benzyl phthalate               | ND     |           | 20  | ug/L | 11/19/18 09:41 | 11/21/18 17:37 |          | 1       |

TestAmerica Irvine

# Client Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

## Client Sample ID: Grab

Date Collected: 11/16/18 08:40  
 Date Received: 11/16/18 11:45

## Lab Sample ID: 440-224565-2

Matrix: Water

### Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

| Analyte                   | Result | Qualifier | RL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------------------------|--------|-----------|-----|------|---|----------------|----------------|---------|
| Chrysene                  | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Dibenz(a,h)anthracene     | ND     |           | 20  | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Dibenzofuran              | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Diethyl phthalate         | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Dimethyl phthalate        | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Di-n-butyl phthalate      | ND     |           | 20  | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Di-n-octyl phthalate      | ND     |           | 20  | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Fluoranthene              | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Fluorene                  | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Hexachlorobenzene         | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Hexachlorobutadiene       | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Hexachlorocyclopentadiene | ND     |           | 20  | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Hexachloroethane          | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Indeno[1,2,3-cd]pyrene    | ND     |           | 20  | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Isophorone                | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Naphthalene               | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Nitrobenzene              | ND     |           | 20  | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| N-Nitrosodimethylamine    | ND     |           | 20  | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| N-Nitrosodi-n-propylamine | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| N-Nitrosodiphenylamine    | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Pentachlorophenol         | ND     |           | 20  | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Phenanthrene              | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Phenol                    | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Pyrene                    | ND     |           | 9.9 | ug/L |   | 11/19/18 09:41 | 11/21/18 17:37 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 2,4,6-Tribromophenol (Surr) | 96        |           | 40 - 120 | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| 2-Fluorobiphenyl            | 81        |           | 50 - 120 | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| 2-Fluorophenol (Surr)       | 62        |           | 30 - 120 | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Nitrobenzene-d5 (Surr)      | 78        |           | 45 - 120 | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Phenol-d6 (Surr)            | 49        |           | 35 - 120 | 11/19/18 09:41 | 11/21/18 17:37 | 1       |
| Terphenyl-d14 (Surr)        | 104       |           | 10 - 150 | 11/19/18 09:41 | 11/21/18 17:37 | 1       |

### General Chemistry

| Analyte | Result | Qualifier | RL  | Unit | D | Prepared       | Analyzed | Dil Fac |
|---------|--------|-----------|-----|------|---|----------------|----------|---------|
| pH      | 8.5    | HF        | 0.1 | SU   |   | 11/19/18 17:35 |          | 1       |

### General Chemistry - Dissolved

| Analyte            | Result | Qualifier | RL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------------|--------|-----------|-------|------|---|----------------|----------------|---------|
| Sulfide, Dissolved | ND     | H HF      | 0.050 | mg/L |   | 11/26/18 16:42 | 11/26/18 17:35 | 1       |

### Method: Field Sampling - Field Sampling

| Analyte           | Result | Qualifier | RL | Unit    | D | Prepared       | Analyzed | Dil Fac |
|-------------------|--------|-----------|----|---------|---|----------------|----------|---------|
| Field pH          | 8.51   |           |    | SU      |   | 11/16/18 08:40 |          | 1       |
| Field Temperature | 11.5   |           |    | Celsius |   | 11/16/18 08:40 |          | 1       |

# Surrogate Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID       | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                 |                  |                 |
|---------------------|------------------------|--|-----------------|------------------|-----------------|
|                     |                        | DCA<br>(70-130)                                | BFB<br>(80-120) | DBFM<br>(76-132) | TOL<br>(80-128) |
| 440-224495-A-13 MS  | Matrix Spike           | 143 X  | 86              | 123              | 95              |
| 440-224495-A-13 MSD | Matrix Spike Duplicate | 127  | 87              | 123              | 95              |
| 440-224522-A-4 MS   | Matrix Spike           | 102  | 99              | 102              | 99              |
| 440-224522-A-4 MSD  | Matrix Spike Duplicate | 101  | 106             | 99               | 99              |
| 440-224565-2        | Grab                   | 99   | 97              | 103              | 101             |
| 440-224565-2        | Grab                   | 101  | 100             | 102              | 107             |
| 440-224565-2 - RA   | Grab                   | 126  | 89              | 117              | 100             |
| 440-224675-D-2 MS   | Matrix Spike           | 100  | 101             | 98               | 96              |
| 440-224675-D-2 MSD  | Matrix Spike Duplicate | 98   | 100             | 99               | 99              |
| LCS 440-512264/5    | Lab Control Sample     | 103  | 103             | 98               | 96              |
| LCS 440-512972/5    | Lab Control Sample     | 98   | 100             | 99               | 99              |
| LCS 440-513044/5    | Lab Control Sample     | 124  | 93              | 118              | 96              |
| MB 440-512264/7     | Method Blank           | 100  | 99              | 104              | 101             |
| MB 440-512972/4     | Method Blank           | 98   | 98              | 98               | 101             |
| MB 440-513044/4     | Method Blank           | 123  | 93              | 118              | 99              |

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID       | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                 |                 |                 |                  |                  |
|---------------------|------------------------|--|-----------------|-----------------|-----------------|------------------|------------------|
|                     |                        | TBP<br>(40-120)                                | FBP<br>(50-120) | 2FP<br>(30-120) | NBZ<br>(45-120) | PHL6<br>(35-120) | TPHL<br>(10-150) |
| 440-224565-2        | Grab                   | 96   | 81              | 62              | 78              | 49               | 104              |
| LCS 440-512081/2-A  | Lab Control Sample     | 102  | 90              | 56              | 79              | 70               | 104              |
| LCSD 440-512081/3-A | Lab Control Sample Dup | 102  | 91              | 52              | 77              | 68               | 104              |
| MB 440-512081/1-A   | Method Blank           | 86   | 77              | 65              | 72              | 71               | 105              |

### Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)

FBP = 2-Fluorobiphenyl

2FP = 2-Fluorophenol (Surr)

NBZ = Nitrobenzene-d5 (Surr)

PHL6 = Phenol-d6 (Surr)

TPHL = Terphenyl-d14 (Surr)

## Method: 8270C SIM - 1,4 Dioxane by SIM

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID       | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |  |  |  |
|---------------------|------------------------|--|--|--|--|
|                     |                        | DXE<br>(27-120)                                |  |  |  |
| 440-224565-2        | Grab                   | 55   |  |  |  |
| LCS 440-512451/2-A  | Lab Control Sample     | 57   |  |  |  |
| LCSD 440-512451/3-A | Lab Control Sample Dup | 55   |  |  |  |

TestAmerica Irvine

## **Surrogate Summary**

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## **Method: 8270C SIM - 1,4 Dioxane by SIM (Continued)**

## Matrix: Water

### **Prep Type: Total/NA**

|                   |                  | Percent Surrogate Recovery (Acceptance Limits) |    |  |  |
|-------------------|------------------|--|----|--|--|
| Lab Sample ID     | Client Sample ID | DXE<br>(27-120)                                | 58 |  |  |
| MB 440-512451/1-A | Method Blank     |  |    |  |  |

## Surrogate Legend

**DXE = 1,4-Dioxane-d8 (Surr)**

## Method Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

| Method         | Method Description                           | Protocol | Laboratory |
|----------------|--|----------|------------|
| 8260B          | Volatile Organic Compounds (GC/MS)           | SW846    | TAL IRV    |
| 8270C          | Semivolatile Organic Compounds (GC/MS)       | SW846    | TAL IRV    |
| 8270C SIM      | 1,4 Dioxane by SIM                           | SW846    | TAL IRV    |
| SM 2540D       | Solids, Total Suspended (TSS)                | SM       | TAL IRV    |
| SM 4500 H+ B   | pH   | SM       | TAL IRV    |
| SM 4500 S2 D   | Sulfide, Total                               | SM       | TAL IRV    |
| SM 5220D       | COD  | SM       | TAL IRV    |
| Field Sampling | Field Sampling                               | EPA      | TAL IRV    |
| 3520C          | Liquid-Liquid Extraction (Continuous)        | SW846    | TAL IRV    |
| 5030B          | Purge and Trap                               | SW846    | TAL IRV    |
| SM 4500 S2 B   | Sulfide, Separation of Soluble and Insoluble | SM       | TAL IRV    |

### Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

# Lab Chronicle

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

## Client Sample ID: Composite

Date Collected: 11/16/18 08:30

Date Received: 11/16/18 11:45

## Lab Sample ID: 440-224565-1

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | SM 2540D     |     | 1          | 1000 mL        | 1000 mL      | 512804       | 11/21/18 21:42       | KM      | TAL IRV |
| Total/NA  | Analysis   | SM 5220D     |     | 1          | 2.5 mL         | 2.5 mL       | 513169       | 11/26/18 15:14       | KYP     | TAL IRV |

## Client Sample ID: Grab

Date Collected: 11/16/18 08:40

Date Received: 11/16/18 11:45

## Lab Sample ID: 440-224565-2

Matrix: Water

| Prep Type | Batch Type | Batch Method   | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|----------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260B          |     | 1          | 10 mL          | 10 mL        | 512264       | 11/19/18 23:32       | OH1     | TAL IRV |
| Total/NA  | Analysis   | 8260B          |     | 1          | 10 mL          | 10 mL        | 512972       | 11/24/18 19:38       | AYL     | TAL IRV |
| Total/NA  | Analysis   | 8260B          | RA  | 1          | 10 mL          | 10 mL        | 513044       | 11/26/18 11:31       | TCN     | TAL IRV |
| Total/NA  | Prep       | 3520C          |     |            | 1010 mL        | 2.0 mL       | 512081       | 11/19/18 09:41       | JAA     | TAL IRV |
| Total/NA  | Analysis   | 8270C          |     | 1          |                |              | 512621       | 11/21/18 17:37       | HN      | TAL IRV |
| Total/NA  | Prep       | 3520C          |     |            | 1025 mL        | 1.0 mL       | 512451       | 11/20/18 12:23       | JAA     | TAL IRV |
| Total/NA  | Analysis   | 8270C SIM      |     | 1          |                |              | 512653       | 11/21/18 15:50       | L1B     | TAL IRV |
| Total/NA  | Analysis   | SM 4500 H+ B   |     | 1          |                |              | 512170       | 11/19/18 17:35       | CMM     | TAL IRV |
| Dissolved | Prep       | SM 4500 S2 B   |     |            | 7.5 mL         | 7.5 mL       | 513192       | 11/26/18 16:42       | KMY     | TAL IRV |
| Dissolved | Analysis   | SM 4500 S2 D   |     | 1          | 7.5 mL         | 7.5 mL       | 513202       | 11/26/18 17:35       | KMY     | TAL IRV |
| Total/NA  | Analysis   | Field Sampling |     | 1          |                |              | 511999       | 11/16/18 08:40       | P1P     | TAL IRV |

### Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID:** MB 440-512264/7

**Matrix:** Water

**Analysis Batch:** 512264

| Analyte                          | MB<br>Result | MB<br>Qualifier | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------------------------------|--------------|-----------------|-----|------|---|----------|----------------|---------|
| 2-Chloroethyl vinyl ether        | ND           |                 | 2.0 | ug/L |   |          | 11/19/18 23:07 | 1       |
| Acrolein                         | ND           |                 | 5.0 | ug/L |   |          | 11/19/18 23:07 | 1       |
| Acrylonitrile                    | ND           |                 | 2.0 | ug/L |   |          | 11/19/18 23:07 | 1       |
| Total Volatile Organic Compounds | ND           |                 | 150 | ug/L |   |          | 11/19/18 23:07 | 1       |

| Surrogate                    | %Recovery | MB<br>Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 100       |                 | 70 - 130 |          | 11/19/18 23:07 | 1       |
| 4-Bromofluorobenzene (Surr)  | 99        |                 | 80 - 120 |          | 11/19/18 23:07 | 1       |
| Dibromofluoromethane (Surr)  | 104       |                 | 76 - 132 |          | 11/19/18 23:07 | 1       |
| Toluene-d8 (Surr)            | 101       |                 | 80 - 128 |          | 11/19/18 23:07 | 1       |

**Lab Sample ID:** LCS 440-512264/5

**Matrix:** Water

**Analysis Batch:** 512264

| Analyte                          | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec.    |
|----------------------------------|----------------|---------------|------------------|------|---|------|----------|
| 2-Chloroethyl vinyl ether        | 25.0           | 28.0          |                  | ug/L |   | 112  | 37 - 150 |
| Acrolein                         | 25.0           | 26.1          |                  | ug/L |   | 104  | 10 - 145 |
| Acrylonitrile                    | 250            | 290           |                  | ug/L |   | 116  | 48 - 140 |
| Total Volatile Organic Compounds | 4730           | 5130          |                  | ug/L |   | 109  | 60 - 140 |

| Surrogate                    | %Recovery | LCS<br>Qualifier | Limits   |
|------------------------------|-----------|------------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 103       |                  | 70 - 130 |
| 4-Bromofluorobenzene (Surr)  | 103       |                  | 80 - 120 |
| Dibromofluoromethane (Surr)  | 98        |                  | 76 - 132 |
| Toluene-d8 (Surr)            | 96        |                  | 80 - 128 |

**Lab Sample ID:** 440-224675-D-2 MS

**Matrix:** Water

**Analysis Batch:** 512264

| Analyte                          | Sample<br>Result | Sample<br>Qualifier | Spike<br>Added | MS<br>Result | MS<br>Qualifier | Unit | D | %Rec | %Rec.    |
|----------------------------------|------------------|---------------------|----------------|--------------|-----------------|------|---|------|----------|
| 2-Chloroethyl vinyl ether        | ND               |                     | 500            | 473          |                 | ug/L |   | 95   | 10 - 140 |
| Acrolein                         | ND               |                     | 500            | 246          |                 | ug/L |   | 49   | 10 - 147 |
| Acrylonitrile                    | ND               |                     | 5000           | 2780         |                 | ug/L |   | 56   | 38 - 144 |
| Total Volatile Organic Compounds | ND               |                     | 94500          | 93100        |                 | ug/L |   | 96   |          |

| Surrogate                    | %Recovery | MS<br>Qualifier | Limits   |
|------------------------------|-----------|-----------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 100       |                 | 70 - 130 |
| 4-Bromofluorobenzene (Surr)  | 101       |                 | 80 - 120 |
| Dibromofluoromethane (Surr)  | 98        |                 | 76 - 132 |
| Toluene-d8 (Surr)            | 96        |                 | 80 - 128 |

**Client Sample ID:** Lab Control Sample

**Prep Type:** Total/NA

**13**

**14**

**15**

**Client Sample ID:** Matrix Spike

**Prep Type:** Total/NA

**1**

**2**

**3**

**4**

**5**

**6**

**7**

**8**

**9**

**10**

**11**

**12**

**13**

**14**

**15**

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-224675-D-2 MSD**

**Matrix: Water**

**Analysis Batch: 512264**

| Analyte                          | Sample | Sample    | Spike | MSD    | MSD       | Unit | D | %Rec. | %Rec. Limits | RPD | RPD Limit |
|----------------------------------|--------|-----------|-------|--------|-----------|------|---|-------|--------------|-----|-----------|
|                                  | Result | Qualifier | Added | Result | Qualifier |      |   |       |              |     |           |
| 2-Chloroethyl vinyl ether        | ND     |           | 500   | 433    |           | ug/L |   | 87    | 10 - 140     | 9   | 35        |
| Acrolein                         | ND     |           | 500   | 299    |           | ug/L |   | 60    | 10 - 147     | 20  | 40        |
| Acrylonitrile                    | ND     |           | 5000  | 3170   |           | ug/L |   | 63    | 38 - 144     | 13  | 40        |
| Total Volatile Organic Compounds | ND     |           | 94500 | 93200  |           | ug/L |   | 96    |              | 0   | 30        |

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

| Surrogate                    | MSD       | MSD       | Limits   |
|------------------------------|-----------|-----------|----------|
|                              | %Recovery | Qualifier |          |
| 1,2-Dichloroethane-d4 (Surr) | 98        |           | 70 - 130 |
| 4-Bromofluorobenzene (Surr)  | 100       |           | 80 - 120 |
| Dibromofluoromethane (Surr)  | 99        |           | 76 - 132 |
| Toluene-d8 (Surr)            | 99        |           | 80 - 128 |

**Lab Sample ID: MB 440-512972/4**

**Matrix: Water**

**Analysis Batch: 512972**

| Analyte                               | MB     | MB        | RL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|--------|-----------|------|------|---|----------|----------------|---------|
|                                       | Result | Qualifier |      |      |   |          |                |         |
| 1,1,1,2-Tetrachloroethane             | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,1,1-Trichloroethane                 | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,1,2,2-Tetrachloroethane             | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND     |           | 5.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,1,2-Trichloroethane                 | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,1-Dichloroethane                    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,1-Dichloroethene                    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,1-Dichloropropene                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,2,3-Trichlorobenzene                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,2,3-Trichloropropane                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,2,4-Trichlorobenzene                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,2,4-Trimethylbenzene                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,2-Dibromo-3-Chloropropane           | ND     |           | 5.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,2-Dibromoethane (EDB)               | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,2-Dichlorobenzene                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,2-Dichloroethane                    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,2-Dichloropropane                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,3,5-Trimethylbenzene                | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,3-Dichlorobenzene                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,3-Dichloropropane                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 1,4-Dichlorobenzene                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 2,2-Dichloropropane                   | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 2-Chlorotoluene                       | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| 4-Chlorotoluene                       | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Acetone                               | ND     |           | 10   | ug/L |   |          | 11/24/18 11:06 | 1       |
| Benzene                               | ND     |           | 0.50 | ug/L |   |          | 11/24/18 11:06 | 1       |
| Bromobenzene                          | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Bromochloromethane                    | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Bromodichloromethane                  | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Bromoform                             | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Bromomethane                          | ND     |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 440-512972/4**

**Matrix: Water**

**Analysis Batch: 512972**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

| Analyte                     | MB     | MB        | Result | Qualifier | RL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|--------|-----------|------|------|---|----------|----------------|---------|
|                             | Result | Qualifier |        |           |      |      |   |          |                |         |
| Carbon tetrachloride        | ND     |           |        |           | 0.50 | ug/L |   |          | 11/24/18 11:06 | 1       |
| Chlorobenzene               | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Chloroethane                | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Chloroform                  | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Chloromethane               | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| cis-1,2-Dichloroethene      | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| cis-1,3-Dichloropropene     | ND     |           |        |           | 0.50 | ug/L |   |          | 11/24/18 11:06 | 1       |
| Dibromochloromethane        | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Dibromomethane              | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Dichlorodifluoromethane     | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Ethylbenzene                | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Hexachlorobutadiene         | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Isopropyl alcohol           | ND     |           |        |           | 250  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Isopropylbenzene            | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| m,p-Xylene                  | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Methylene Chloride          | ND     |           |        |           | 5.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Methyl-t-Butyl Ether (MTBE) | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Naphthalene                 | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| n-Butylbenzene              | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| N-Propylbenzene             | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| o-Xylene                    | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| p-Isopropyltoluene          | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| sec-Butylbenzene            | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Styrene                     | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| tert-Butylbenzene           | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Tetrachloroethene           | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Toluene                     | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| trans-1,2-Dichloroethene    | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| trans-1,3-Dichloropropene   | ND     |           |        |           | 0.50 | ug/L |   |          | 11/24/18 11:06 | 1       |
| Trichloroethene             | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Trichlorofluoromethane      | ND     |           |        |           | 1.0  | ug/L |   |          | 11/24/18 11:06 | 1       |
| Vinyl chloride              | ND     |           |        |           | 0.50 | ug/L |   |          | 11/24/18 11:06 | 1       |

### MB MB

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 98        |           | 70 - 130 |          |          | 1       |
| 4-Bromofluorobenzene (Surr)  | 98        |           | 80 - 120 |          |          | 1       |
| Dibromofluoromethane (Surr)  | 98        |           | 76 - 132 |          |          | 1       |
| Toluene-d8 (Surr)            | 101       |           | 80 - 128 |          |          | 1       |

**Lab Sample ID: LCS 440-512972/5**

**Matrix: Water**

**Analysis Batch: 512972**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

| Analyte                   | Spike Added | LCS LCS |           |      | %Rec. |          |
|---------------------------|-------------|---------|-----------|------|-------|----------|
|                           |             | Result  | Qualifier | Unit | D     | %Rec     |
| 1,1,1,2-Tetrachloroethane | 25.0        | 25.0    |           | ug/L | 100   | 60 - 141 |
| 1,1,1-Trichloroethane     | 25.0        | 23.9    |           | ug/L | 96    | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 25.0        | 25.2    |           | ug/L | 101   | 63 - 130 |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-512972/5**

**Matrix: Water**

**Analysis Batch: 512972**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

| Analyte                               | Spike | LCS    | LCS       | Unit | D | %Rec | %Rec.    | Limits |  |
|---------------------------------------|-------|--------|-----------|------|---|------|----------|--------|--|
|                                       | Added | Result | Qualifier |      |   |      | 96       |        |  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 25.0  | 23.9   |           | ug/L |   | 96   | 60 - 140 |        |  |
| 1,1,2-Trichloroethane                 | 25.0  | 25.1   |           | ug/L |   | 100  | 70 - 130 |        |  |
| 1,1-Dichloroethane                    | 25.0  | 24.6   |           | ug/L |   | 98   | 64 - 130 |        |  |
| 1,1-Dichloroethene                    | 25.0  | 25.1   |           | ug/L |   | 100  | 70 - 130 |        |  |
| 1,1-Dichloropropene                   | 25.0  | 24.1   |           | ug/L |   | 96   | 70 - 130 |        |  |
| 1,2,3-Trichlorobenzene                | 25.0  | 25.1   |           | ug/L |   | 100  | 60 - 140 |        |  |
| 1,2,3-Trichloropropane                | 25.0  | 25.1   |           | ug/L |   | 100  | 63 - 130 |        |  |
| 1,2,4-Trichlorobenzene                | 25.0  | 24.1   |           | ug/L |   | 96   | 60 - 140 |        |  |
| 1,2,4-Trimethylbenzene                | 25.0  | 25.3   |           | ug/L |   | 101  | 70 - 135 |        |  |
| 1,2-Dibromo-3-Chloropropane           | 25.0  | 23.8   |           | ug/L |   | 95   | 52 - 140 |        |  |
| 1,2-Dibromoethane (EDB)               | 25.0  | 25.1   |           | ug/L |   | 100  | 70 - 130 |        |  |
| 1,2-Dichlorobenzene                   | 25.0  | 24.8   |           | ug/L |   | 99   | 70 - 130 |        |  |
| 1,2-Dichloroethane                    | 25.0  | 23.0   |           | ug/L |   | 92   | 57 - 138 |        |  |
| 1,2-Dichloropropane                   | 25.0  | 26.2   |           | ug/L |   | 105  | 67 - 130 |        |  |
| 1,3,5-Trimethylbenzene                | 25.0  | 24.4   |           | ug/L |   | 98   | 70 - 136 |        |  |
| 1,3-Dichlorobenzene                   | 25.0  | 24.0   |           | ug/L |   | 96   | 70 - 130 |        |  |
| 1,3-Dichloropropane                   | 25.0  | 24.9   |           | ug/L |   | 99   | 70 - 130 |        |  |
| 1,4-Dichlorobenzene                   | 25.0  | 24.7   |           | ug/L |   | 99   | 70 - 130 |        |  |
| 2,2-Dichloropropane                   | 25.0  | 23.7   |           | ug/L |   | 95   | 68 - 141 |        |  |
| 2-Chlorotoluene                       | 25.0  | 25.1   |           | ug/L |   | 100  | 70 - 130 |        |  |
| 4-Chlorotoluene                       | 25.0  | 25.1   |           | ug/L |   | 101  | 70 - 130 |        |  |
| Acetone                               | 25.0  | 14.4   |           | ug/L |   | 57   | 10 - 150 |        |  |
| Benzene                               | 25.0  | 24.6   |           | ug/L |   | 98   | 68 - 130 |        |  |
| Bromobenzene                          | 25.0  | 25.7   |           | ug/L |   | 103  | 70 - 130 |        |  |
| Bromochloromethane                    | 25.0  | 25.5   |           | ug/L |   | 102  | 70 - 130 |        |  |
| Bromodichloromethane                  | 25.0  | 25.1   |           | ug/L |   | 101  | 70 - 132 |        |  |
| Bromoform                             | 25.0  | 25.0   |           | ug/L |   | 100  | 60 - 148 |        |  |
| Bromomethane                          | 25.0  | 22.9   |           | ug/L |   | 92   | 64 - 139 |        |  |
| Carbon tetrachloride                  | 25.0  | 23.5   |           | ug/L |   | 94   | 60 - 150 |        |  |
| Chlorobenzene                         | 25.0  | 22.6   |           | ug/L |   | 91   | 70 - 130 |        |  |
| Chloroethane                          | 25.0  | 23.6   |           | ug/L |   | 94   | 64 - 135 |        |  |
| Chloroform                            | 25.0  | 24.9   |           | ug/L |   | 100  | 70 - 130 |        |  |
| Chloromethane                         | 25.0  | 19.7   |           | ug/L |   | 79   | 47 - 140 |        |  |
| cis-1,2-Dichloroethene                | 25.0  | 25.0   |           | ug/L |   | 100  | 70 - 133 |        |  |
| cis-1,3-Dichloropropene               | 25.0  | 26.5   |           | ug/L |   | 106  | 70 - 133 |        |  |
| Dibromochloromethane                  | 25.0  | 25.5   |           | ug/L |   | 102  | 69 - 145 |        |  |
| Dibromomethane                        | 25.0  | 24.2   |           | ug/L |   | 97   | 70 - 130 |        |  |
| Dichlorodifluoromethane               | 25.0  | 19.3   |           | ug/L |   | 77   | 29 - 150 |        |  |
| Ethylbenzene                          | 25.0  | 22.6   |           | ug/L |   | 90   | 70 - 130 |        |  |
| Hexachlorobutadiene                   | 25.0  | 25.3   |           | ug/L |   | 101  | 10 - 150 |        |  |
| Isopropylbenzene                      | 25.0  | 22.2   |           | ug/L |   | 89   | 70 - 136 |        |  |
| m,p-Xylene                            | 25.0  | 23.4   |           | ug/L |   | 94   | 70 - 130 |        |  |
| Methylene Chloride                    | 25.0  | 24.1   |           | ug/L |   | 97   | 52 - 130 |        |  |
| Methyl-t-Butyl Ether (MTBE)           | 25.0  | 24.1   |           | ug/L |   | 96   | 63 - 131 |        |  |
| Naphthalene                           | 25.0  | 23.2   |           | ug/L |   | 93   | 60 - 140 |        |  |
| n-Butylbenzene                        | 25.0  | 23.0   |           | ug/L |   | 92   | 65 - 150 |        |  |
| N-Propylbenzene                       | 25.0  | 24.7   |           | ug/L |   | 99   | 67 - 139 |        |  |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-512972/5**

**Matrix: Water**

**Analysis Batch: 512972**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

| Analyte                   | Spike | LCS    | LCS       | Unit | D | %Rec | %Rec.    |
|---------------------------|-------|--------|-----------|------|---|------|----------|
|                           | Added | Result | Qualifier |      |   |      |          |
| o-Xylene                  | 25.0  | 25.0   |           | ug/L |   | 100  | 70 - 130 |
| p-Isopropyltoluene        | 25.0  | 23.9   |           | ug/L |   | 96   | 70 - 132 |
| sec-Butylbenzene          | 25.0  | 23.4   |           | ug/L |   | 94   | 70 - 138 |
| Styrene                   | 25.0  | 23.9   |           | ug/L |   | 95   | 70 - 134 |
| tert-Butylbenzene         | 25.0  | 24.0   |           | ug/L |   | 96   | 70 - 130 |
| Tetrachloroethene         | 25.0  | 23.6   |           | ug/L |   | 95   | 70 - 130 |
| Toluene                   | 25.0  | 23.7   |           | ug/L |   | 95   | 70 - 130 |
| trans-1,2-Dichloroethene  | 25.0  | 25.9   |           | ug/L |   | 104  | 70 - 130 |
| trans-1,3-Dichloropropene | 25.0  | 25.7   |           | ug/L |   | 103  | 70 - 132 |
| Trichloroethene           | 25.0  | 24.7   |           | ug/L |   | 99   | 70 - 130 |
| Trichlorofluoromethane    | 25.0  | 22.6   |           | ug/L |   | 90   | 60 - 150 |
| Vinyl chloride            | 25.0  | 20.8   |           | ug/L |   | 83   | 59 - 133 |

| Surrogate                    | LCS       | LCS       | Limits   |
|------------------------------|-----------|-----------|----------|
|                              | %Recovery | Qualifier |          |
| 1,2-Dichloroethane-d4 (Surr) | 98        |           | 70 - 130 |
| 4-Bromofluorobenzene (Surr)  | 100       |           | 80 - 120 |
| Dibromofluoromethane (Surr)  | 99        |           | 76 - 132 |
| Toluene-d8 (Surr)            | 99        |           | 80 - 128 |

**Lab Sample ID: 440-224522-A-4 MS**

**Matrix: Water**

**Analysis Batch: 512972**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

| Analyte                               | Sample | Sample    | Spike | MS     | MS        | Unit | D | %Rec | %Rec.    |
|---------------------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|
|                                       | Result | Qualifier | Added | Result | Qualifier |      |   |      |          |
| 1,1,1,2-Tetrachloroethane             | ND     |           | 25.0  | 24.8   |           | ug/L |   | 99   | 60 - 149 |
| 1,1,1-Trichloroethane                 | ND     |           | 25.0  | 25.7   |           | ug/L |   | 103  | 70 - 130 |
| 1,1,2,2-Tetrachloroethane             | ND     |           | 25.0  | 24.5   |           | ug/L |   | 98   | 63 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND     |           | 25.0  | 28.3   |           | ug/L |   | 113  | 60 - 140 |
| 1,1,2-Trichloroethane                 | ND     |           | 25.0  | 24.9   |           | ug/L |   | 99   | 70 - 130 |
| 1,1-Dichloroethane                    | 61     |           | 25.0  | 82.2   |           | ug/L |   | 84   | 65 - 130 |
| 1,1-Dichloroethene                    | ND     |           | 25.0  | 27.9   |           | ug/L |   | 111  | 70 - 130 |
| 1,1-Dichloropropene                   | ND     |           | 25.0  | 26.9   |           | ug/L |   | 108  | 64 - 130 |
| 1,2,3-Trichlorobenzene                | ND     |           | 25.0  | 25.5   |           | ug/L |   | 102  | 60 - 140 |
| 1,2,3-Trichloropropane                | ND     |           | 25.0  | 27.0   |           | ug/L |   | 108  | 60 - 130 |
| 1,2,4-Trichlorobenzene                | ND     |           | 25.0  | 25.1   |           | ug/L |   | 100  | 60 - 140 |
| 1,2,4-Trimethylbenzene                | ND     |           | 25.0  | 25.1   |           | ug/L |   | 100  | 70 - 130 |
| 1,2-Dibromo-3-Chloropropane           | ND     |           | 25.0  | 25.5   |           | ug/L |   | 102  | 48 - 140 |
| 1,2-Dibromoethane (EDB)               | ND     |           | 25.0  | 24.0   |           | ug/L |   | 96   | 70 - 131 |
| 1,2-Dichlorobenzene                   | 2.0    |           | 25.0  | 25.4   |           | ug/L |   | 94   | 70 - 130 |
| 1,2-Dichloroethane                    | ND     |           | 25.0  | 23.3   |           | ug/L |   | 91   | 56 - 146 |
| 1,2-Dichloropropane                   | 2.0    |           | 25.0  | 27.5   |           | ug/L |   | 102  | 69 - 130 |
| 1,3,5-Trimethylbenzene                | ND     |           | 25.0  | 25.9   |           | ug/L |   | 104  | 70 - 130 |
| 1,3-Dichlorobenzene                   | ND     |           | 25.0  | 23.4   |           | ug/L |   | 94   | 70 - 130 |
| 1,3-Dichloropropane                   | ND     |           | 25.0  | 23.5   |           | ug/L |   | 94   | 70 - 130 |
| 1,4-Dichlorobenzene                   | ND     |           | 25.0  | 24.4   |           | ug/L |   | 96   | 70 - 130 |
| 2,2-Dichloropropane                   | ND     |           | 25.0  | 27.3   |           | ug/L |   | 109  | 69 - 138 |
| 2-Chlorotoluene                       | ND     |           | 25.0  | 25.2   |           | ug/L |   | 100  | 70 - 130 |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-224522-A-4 MS

Matrix: Water

Analysis Batch: 512972

Client Sample ID: Matrix Spike  
 Prep Type: Total/NA

| Analyte                      | Sample | Sample           | Spike            | MS     | MS            | Unit | D | %Rec | %Rec.    | Limits |  |
|------------------------------|--------|------------------|------------------|--------|---------------|------|---|------|----------|--------|--|
|                              | Result | Qualifier        | Added            | Result | Qualifier     |      |   |      |          |        |  |
| 4-Chlorotoluene              | ND     |                  | 25.0             | 25.2   |               | ug/L |   | 101  | 70 - 130 |        |  |
| Acetone                      | ND     |                  | 25.0             | 26.9   |               | ug/L |   | 107  | 10 - 150 |        |  |
| Benzene                      | 32     |                  | 25.0             | 55.2   |               | ug/L |   | 91   | 66 - 130 |        |  |
| Bromobenzene                 | ND     |                  | 25.0             | 24.7   |               | ug/L |   | 99   | 70 - 130 |        |  |
| Bromochloromethane           | ND     |                  | 25.0             | 25.9   |               | ug/L |   | 104  | 70 - 130 |        |  |
| Bromodichloromethane         | ND     |                  | 25.0             | 25.2   |               | ug/L |   | 101  | 70 - 138 |        |  |
| Bromoform                    | ND     |                  | 25.0             | 24.6   |               | ug/L |   | 98   | 59 - 150 |        |  |
| Bromomethane                 | ND     |                  | 25.0             | 23.4   |               | ug/L |   | 94   | 62 - 131 |        |  |
| Carbon tetrachloride         | ND     |                  | 25.0             | 26.3   |               | ug/L |   | 105  | 60 - 150 |        |  |
| Chlorobenzene                | 44     | F1               | 25.0             | 59.6   | F1            | ug/L |   | 64   | 70 - 130 |        |  |
| Chloroethane                 | ND     |                  | 25.0             | 24.5   |               | ug/L |   | 98   | 68 - 130 |        |  |
| Chloroform                   | ND     |                  | 25.0             | 24.7   |               | ug/L |   | 99   | 70 - 130 |        |  |
| Chloromethane                | ND     |                  | 25.0             | 20.0   |               | ug/L |   | 80   | 39 - 144 |        |  |
| cis-1,2-Dichloroethene       | 6.9    |                  | 25.0             | 31.1   |               | ug/L |   | 97   | 70 - 130 |        |  |
| cis-1,3-Dichloropropene      | ND     |                  | 25.0             | 26.4   |               | ug/L |   | 106  | 70 - 133 |        |  |
| Dibromochloromethane         | ND     |                  | 25.0             | 25.2   |               | ug/L |   | 101  | 70 - 148 |        |  |
| Dibromomethane               | ND     |                  | 25.0             | 24.4   |               | ug/L |   | 97   | 70 - 130 |        |  |
| Dichlorodifluoromethane      | ND     |                  | 25.0             | 21.9   |               | ug/L |   | 88   | 25 - 142 |        |  |
| Ethylbenzene                 | ND     |                  | 25.0             | 23.9   |               | ug/L |   | 96   | 70 - 130 |        |  |
| Hexachlorobutadiene          | ND     |                  | 25.0             | 27.6   |               | ug/L |   | 110  | 10 - 150 |        |  |
| Isopropylbenzene             | ND     |                  | 25.0             | 23.9   |               | ug/L |   | 96   | 70 - 132 |        |  |
| m,p-Xylene                   | ND     |                  | 25.0             | 24.4   |               | ug/L |   | 97   | 70 - 133 |        |  |
| Methylene Chloride           | ND     |                  | 25.0             | 24.3   |               | ug/L |   | 97   | 52 - 130 |        |  |
| Methyl-t-Butyl Ether (MTBE)  | ND     |                  | 25.0             | 23.7   |               | ug/L |   | 95   | 70 - 130 |        |  |
| Naphthalene                  | ND     |                  | 25.0             | 24.0   |               | ug/L |   | 94   | 60 - 140 |        |  |
| n-Butylbenzene               | ND     |                  | 25.0             | 25.3   |               | ug/L |   | 101  | 61 - 149 |        |  |
| N-Propylbenzene              | ND     |                  | 25.0             | 25.9   |               | ug/L |   | 103  | 66 - 135 |        |  |
| o-Xylene                     | ND     |                  | 25.0             | 23.7   |               | ug/L |   | 95   | 70 - 133 |        |  |
| p-Isopropyltoluene           | ND     |                  | 25.0             | 25.3   |               | ug/L |   | 101  | 70 - 130 |        |  |
| sec-Butylbenzene             | ND     |                  | 25.0             | 26.0   |               | ug/L |   | 104  | 67 - 134 |        |  |
| Styrene                      | ND     |                  | 25.0             | 22.0   |               | ug/L |   | 88   | 29 - 150 |        |  |
| tert-Butylbenzene            | ND     |                  | 25.0             | 26.4   |               | ug/L |   | 106  | 70 - 130 |        |  |
| Tetrachloroethene            | ND     |                  | 25.0             | 25.7   |               | ug/L |   | 103  | 70 - 137 |        |  |
| Toluene                      | ND     |                  | 25.0             | 24.0   |               | ug/L |   | 93   | 70 - 130 |        |  |
| trans-1,2-Dichloroethene     | 3.7    |                  | 25.0             | 29.8   |               | ug/L |   | 105  | 70 - 130 |        |  |
| trans-1,3-Dichloropropene    | ND     |                  | 25.0             | 25.2   |               | ug/L |   | 101  | 70 - 138 |        |  |
| Trichloroethene              | ND     |                  | 25.0             | 27.3   |               | ug/L |   | 109  | 70 - 130 |        |  |
| Trichlorofluoromethane       | ND     |                  | 25.0             | 26.4   |               | ug/L |   | 106  | 60 - 150 |        |  |
| Vinyl chloride               | 23     |                  | 25.0             | 43.3   |               | ug/L |   | 81   | 50 - 137 |        |  |
| <b>Surrogate</b>             |        | <b>MS</b>        | <b>MS</b>        |        |               |      |   |      |          |        |  |
|                              |        | <b>%Recovery</b> | <b>Qualifier</b> |        | <b>Limits</b> |      |   |      |          |        |  |
| 1,2-Dichloroethane-d4 (Surr) |        | 102              |                  |        | 70 - 130      |      |   |      |          |        |  |
| 4-Bromofluorobenzene (Surr)  |        | 99               |                  |        | 80 - 120      |      |   |      |          |        |  |
| Dibromofluoromethane (Surr)  |        | 102              |                  |        | 76 - 132      |      |   |      |          |        |  |
| Toluene-d8 (Surr)            |        | 99               |                  |        | 80 - 128      |      |   |      |          |        |  |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Lab Sample ID: 440-224522-A-4 MSD     |       |                        |  | Client Sample ID: Matrix Spike Duplicate Prep Type: Total/NA |                  |             |            |               |      |   |       |          |     |           |
|---------------------------------------|-------|------------------------|--|--|------------------|-------------|------------|---------------|------|---|-------|----------|-----|-----------|
| Matrix: Water                         |       | Analysis Batch: 512972 |  | Sample Result  | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec. | Limits   | RPD | RPD Limit |
| Analyte                               |       |                        |  |  |                  |             |            |               |      |   |       |          |     |           |
| 1,1,1,2-Tetrachloroethane             | ND    |                        |  | 25.0   |                  | 24.7        |            |               | ug/L |   | 99    | 60 - 149 | 0   | 20        |
| 1,1,1-Trichloroethane                 | ND    |                        |  | 25.0   |                  | 26.7        |            |               | ug/L |   | 107   | 70 - 130 | 4   | 20        |
| 1,1,2,2-Tetrachloroethane             | ND    |                        |  | 25.0   |                  | 24.4        |            |               | ug/L |   | 97    | 63 - 130 | 1   | 30        |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND    |                        |  | 25.0   |                  | 27.9        |            |               | ug/L |   | 112   | 60 - 140 | 1   | 20        |
| 1,1,2-Trichloroethane                 | ND    |                        |  | 25.0   |                  | 25.8        |            |               | ug/L |   | 103   | 70 - 130 | 4   | 25        |
| 1,1-Dichloroethane                    | 61    |                        |  | 25.0   |                  | 77.7        |            |               | ug/L |   | 66    | 65 - 130 | 6   | 20        |
| 1,1-Dichloroethene                    | ND    |                        |  | 25.0   |                  | 28.1        |            |               | ug/L |   | 112   | 70 - 130 | 1   | 20        |
| 1,1-Dichloropropene                   | ND    |                        |  | 25.0   |                  | 27.2        |            |               | ug/L |   | 109   | 64 - 130 | 1   | 20        |
| 1,2,3-Trichlorobenzene                | ND    |                        |  | 25.0   |                  | 25.4        |            |               | ug/L |   | 102   | 60 - 140 | 0   | 20        |
| 1,2,3-Trichloropropane                | ND    |                        |  | 25.0   |                  | 26.8        |            |               | ug/L |   | 107   | 60 - 130 | 1   | 30        |
| 1,2,4-Trichlorobenzene                | ND    |                        |  | 25.0   |                  | 24.6        |            |               | ug/L |   | 99    | 60 - 140 | 2   | 20        |
| 1,2,4-Trimethylbenzene                | ND    |                        |  | 25.0   |                  | 25.9        |            |               | ug/L |   | 104   | 70 - 130 | 3   | 25        |
| 1,2-Dibromo-3-Chloropropane           | ND    |                        |  | 25.0   |                  | 23.3        |            |               | ug/L |   | 93    | 48 - 140 | 9   | 30        |
| 1,2-Dibromoethane (EDB)               | ND    |                        |  | 25.0   |                  | 25.0        |            |               | ug/L |   | 100   | 70 - 131 | 4   | 25        |
| 1,2-Dichlorobenzene                   | 2.0   |                        |  | 25.0   |                  | 26.8        |            |               | ug/L |   | 99    | 70 - 130 | 5   | 20        |
| 1,2-Dichloroethane                    | ND    |                        |  | 25.0   |                  | 23.0        |            |               | ug/L |   | 90    | 56 - 146 | 1   | 20        |
| 1,2-Dichloropropane                   | 2.0   |                        |  | 25.0   |                  | 27.7        |            |               | ug/L |   | 103   | 69 - 130 | 1   | 20        |
| 1,3,5-Trimethylbenzene                | ND    |                        |  | 25.0   |                  | 25.9        |            |               | ug/L |   | 103   | 70 - 130 | 0   | 20        |
| 1,3-Dichlorobenzene                   | ND    |                        |  | 25.0   |                  | 24.4        |            |               | ug/L |   | 98    | 70 - 130 | 4   | 20        |
| 1,3-Dichloropropane                   | ND    |                        |  | 25.0   |                  | 24.5        |            |               | ug/L |   | 98    | 70 - 130 | 4   | 25        |
| 1,4-Dichlorobenzene                   | ND    |                        |  | 25.0   |                  | 24.8        |            |               | ug/L |   | 98    | 70 - 130 | 2   | 20        |
| 2,2-Dichloropropane                   | ND    |                        |  | 25.0   |                  | 26.8        |            |               | ug/L |   | 107   | 69 - 138 | 2   | 25        |
| 2-Chlorotoluene                       | ND    |                        |  | 25.0   |                  | 25.5        |            |               | ug/L |   | 101   | 70 - 130 | 1   | 20        |
| 4-Chlorotoluene                       | ND    |                        |  | 25.0   |                  | 24.8        |            |               | ug/L |   | 99    | 70 - 130 | 1   | 20        |
| Acetone                               | ND    |                        |  | 25.0   |                  | 26.8        |            |               | ug/L |   | 107   | 10 - 150 | 0   | 35        |
| Benzene                               | 32    |                        |  | 25.0   |                  | 55.8        |            |               | ug/L |   | 94    | 66 - 130 | 1   | 20        |
| Bromobenzene                          | ND    |                        |  | 25.0   |                  | 25.5        |            |               | ug/L |   | 102   | 70 - 130 | 3   | 20        |
| Bromochloromethane                    | ND    |                        |  | 25.0   |                  | 25.8        |            |               | ug/L |   | 103   | 70 - 130 | 1   | 25        |
| Bromodichloromethane                  | ND    |                        |  | 25.0   |                  | 25.7        |            |               | ug/L |   | 103   | 70 - 138 | 2   | 20        |
| Bromoform                             | ND    |                        |  | 25.0   |                  | 25.1        |            |               | ug/L |   | 100   | 59 - 150 | 2   | 25        |
| Bromomethane                          | ND    |                        |  | 25.0   |                  | 24.0        |            |               | ug/L |   | 96    | 62 - 131 | 3   | 25        |
| Carbon tetrachloride                  | ND    |                        |  | 25.0   |                  | 26.7        |            |               | ug/L |   | 107   | 60 - 150 | 2   | 25        |
| Chlorobenzene                         | 44 F1 |                        |  | 25.0   |                  | 59.6 F1     |            |               | ug/L |   | 64    | 70 - 130 | 0   | 20        |
| Chloroethane                          | ND    |                        |  | 25.0   |                  | 25.3        |            |               | ug/L |   | 101   | 68 - 130 | 4   | 25        |
| Chloroform                            | ND    |                        |  | 25.0   |                  | 25.3        |            |               | ug/L |   | 101   | 70 - 130 | 2   | 20        |
| Chloromethane                         | ND    |                        |  | 25.0   |                  | 20.6        |            |               | ug/L |   | 82    | 39 - 144 | 3   | 25        |
| cis-1,2-Dichloroethene                | 6.9   |                        |  | 25.0   |                  | 30.9        |            |               | ug/L |   | 96    | 70 - 130 | 1   | 20        |
| cis-1,3-Dichloropropene               | ND    |                        |  | 25.0   |                  | 27.5        |            |               | ug/L |   | 110   | 70 - 133 | 4   | 20        |
| Dibromochloromethane                  | ND    |                        |  | 25.0   |                  | 26.2        |            |               | ug/L |   | 105   | 70 - 148 | 4   | 25        |
| Dibromomethane                        | ND    |                        |  | 25.0   |                  | 25.5        |            |               | ug/L |   | 102   | 70 - 130 | 5   | 25        |
| Dichlorodifluoromethane               | ND    |                        |  | 25.0   |                  | 21.1        |            |               | ug/L |   | 85    | 25 - 142 | 3   | 30        |
| Ethylbenzene                          | ND    |                        |  | 25.0   |                  | 24.5        |            |               | ug/L |   | 98    | 70 - 130 | 2   | 20        |
| Hexachlorobutadiene                   | ND    |                        |  | 25.0   |                  | 27.5        |            |               | ug/L |   | 110   | 10 - 150 | 0   | 20        |
| Isopropylbenzene                      | ND    |                        |  | 25.0   |                  | 25.5        |            |               | ug/L |   | 102   | 70 - 132 | 6   | 20        |
| m,p-Xylene                            | ND    |                        |  | 25.0   |                  | 24.5        |            |               | ug/L |   | 98    | 70 - 133 | 1   | 25        |
| Methylene Chloride                    | ND    |                        |  | 25.0   |                  | 24.8        |            |               | ug/L |   | 99    | 52 - 130 | 2   | 20        |
| Methyl-t-Butyl Ether (MTBE)           | ND    |                        |  | 25.0   |                  | 23.7        |            |               | ug/L |   | 95    | 70 - 130 | 0   | 25        |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-224522-A-4 MSD**

**Matrix: Water**

**Analysis Batch: 512972**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

| Analyte                      | Sample Result | Sample Qualifier     | Spike Added          | MSD Result    | MSD Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
|------------------------------|---------------|----------------------|----------------------|---------------|---------------|------|---|------|----------|-----|-------|
| Naphthalene                  | ND            |                      | 25.0                 | 23.4          |               | ug/L |   | 92   | 60 - 140 | 2   | 30    |
| n-Butylbenzene               | ND            |                      | 25.0                 | 25.4          |               | ug/L |   | 101  | 61 - 149 | 0   | 20    |
| N-Propylbenzene              | ND            |                      | 25.0                 | 25.1          |               | ug/L |   | 100  | 66 - 135 | 3   | 20    |
| o-Xylene                     | ND            |                      | 25.0                 | 24.8          |               | ug/L |   | 99   | 70 - 133 | 4   | 20    |
| p-Isopropyltoluene           | ND            |                      | 25.0                 | 25.7          |               | ug/L |   | 103  | 70 - 130 | 2   | 20    |
| sec-Butylbenzene             | ND            |                      | 25.0                 | 25.9          |               | ug/L |   | 103  | 67 - 134 | 1   | 20    |
| Styrene                      | ND            |                      | 25.0                 | 24.3          |               | ug/L |   | 97   | 29 - 150 | 10  | 35    |
| tert-Butylbenzene            | ND            |                      | 25.0                 | 26.0          |               | ug/L |   | 104  | 70 - 130 | 2   | 20    |
| Tetrachloroethene            | ND            |                      | 25.0                 | 26.4          |               | ug/L |   | 105  | 70 - 137 | 3   | 20    |
| Toluene                      | ND            |                      | 25.0                 | 25.4          |               | ug/L |   | 98   | 70 - 130 | 5   | 20    |
| trans-1,2-Dichloroethene     | 3.7           |                      | 25.0                 | 30.3          |               | ug/L |   | 107  | 70 - 130 | 2   | 20    |
| trans-1,3-Dichloropropene    | ND            |                      | 25.0                 | 26.7          |               | ug/L |   | 107  | 70 - 138 | 6   | 25    |
| Trichloroethene              | ND            |                      | 25.0                 | 27.2          |               | ug/L |   | 109  | 70 - 130 | 0   | 20    |
| Trichlorofluoromethane       | ND            |                      | 25.0                 | 26.3          |               | ug/L |   | 105  | 60 - 150 | 0   | 25    |
| Vinyl chloride               | 23            |                      | 25.0                 | 43.1          |               | ug/L |   | 80   | 50 - 137 | 1   | 30    |
| <b>Surrogate</b>             |               | <b>MSD %Recovery</b> | <b>MSD Qualifier</b> | <b>Limits</b> |               |      |   |      |          |     |       |
| 1,2-Dichloroethane-d4 (Surr) | 101           |                      |                      | 70 - 130      |               |      |   |      |          |     |       |
| 4-Bromofluorobenzene (Surr)  | 106           |                      |                      | 80 - 120      |               |      |   |      |          |     |       |
| Dibromofluoromethane (Surr)  | 99            |                      |                      | 76 - 132      |               |      |   |      |          |     |       |
| Toluene-d8 (Surr)            | 99            |                      |                      | 80 - 128      |               |      |   |      |          |     |       |

**Lab Sample ID: MB 440-513044/4**

**Matrix: Water**

**Analysis Batch: 513044**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

| Analyte                      | MB Result | MB Qualifier        | RL                  | Unit          | D | Prepared        | Analyzed        | Dil Fac        |
|------------------------------|-----------|---------------------|---------------------|---------------|---|-----------------|-----------------|----------------|
| Acetone                      | ND        |                     | 10                  | ug/L          |   |                 | 11/26/18 08:38  | 1              |
| <b>Surrogate</b>             |           | <b>MB %Recovery</b> | <b>MB Qualifier</b> | <b>Limits</b> |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| 1,2-Dichloroethane-d4 (Surr) | 123       |                     |                     | 70 - 130      |   |                 | 11/26/18 08:38  | 1              |
| 4-Bromofluorobenzene (Surr)  | 93        |                     |                     | 80 - 120      |   |                 | 11/26/18 08:38  | 1              |
| Dibromofluoromethane (Surr)  | 118       |                     |                     | 76 - 132      |   |                 | 11/26/18 08:38  | 1              |
| Toluene-d8 (Surr)            | 99        |                     |                     | 80 - 128      |   |                 | 11/26/18 08:38  | 1              |

**Lab Sample ID: LCS 440-513044/5**

**Matrix: Water**

**Analysis Batch: 513044**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

| Analyte                      | Spike Added | LCS Result           | LCS Qualifier        | Unit          | D | %Rec | Limits   |
|------------------------------|-------------|----------------------|----------------------|---------------|---|------|----------|
| Acetone                      | 25.0        | 18.4                 |                      | ug/L          |   | 74   | 10 - 150 |
| <b>Surrogate</b>             |             | <b>LCS %Recovery</b> | <b>LCS Qualifier</b> | <b>Limits</b> |   |      |          |
| 1,2-Dichloroethane-d4 (Surr) | 124         |                      |                      | 70 - 130      |   |      |          |
| 4-Bromofluorobenzene (Surr)  | 93          |                      |                      | 80 - 120      |   |      |          |
| Dibromofluoromethane (Surr)  | 118         |                      |                      | 76 - 132      |   |      |          |
| Toluene-d8 (Surr)            | 96          |                      |                      | 80 - 128      |   |      |          |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-224495-A-13 MS**

**Matrix: Water**

**Analysis Batch: 513044**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

| Analyte                      | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|------------------------------|---------------|------------------|-------------|-----------|--------------|------|---|------|--------------|
| Acetone                      | ND            |                  | 25.0        | 37.1      |              | ug/L |   | 149  | 10 - 150     |
| <b>Surrogate</b>             |               |                  |             |           |              |      |   |      |              |
|                              |               |                  |             |           |              |      |   |      |              |
| 1,2-Dichloroethane-d4 (Surr) | 143           | X                |             | 70 - 130  |              |      |   |      |              |
| 4-Bromofluorobenzene (Surr)  | 86            |                  |             | 80 - 120  |              |      |   |      |              |
| Dibromofluoromethane (Surr)  | 123           |                  |             | 76 - 132  |              |      |   |      |              |
| Toluene-d8 (Surr)            | 95            |                  |             | 80 - 128  |              |      |   |      |              |

**Lab Sample ID: 440-224495-A-13 MSD**

**Matrix: Water**

**Analysis Batch: 513044**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

| Analyte                      | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|------------------------------|---------------|------------------|-------------|------------|---------------|------|---|------|--------------|-----|-----------|
| Acetone                      | ND            |                  | 25.0        | 34.2       |               | ug/L |   | 137  | 10 - 150     | 8   | 35        |
| <b>Surrogate</b>             |               |                  |             |            |               |      |   |      |              |     |           |
|                              |               |                  |             |            |               |      |   |      |              |     |           |
| 1,2-Dichloroethane-d4 (Surr) | 127           |                  |             | 70 - 130   |               |      |   |      |              |     |           |
| 4-Bromofluorobenzene (Surr)  | 87            |                  |             | 80 - 120   |               |      |   |      |              |     |           |
| Dibromofluoromethane (Surr)  | 123           |                  |             | 76 - 132   |               |      |   |      |              |     |           |
| Toluene-d8 (Surr)            | 95            |                  |             | 80 - 128   |               |      |   |      |              |     |           |

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 440-512081/1-A**

**Matrix: Water**

**Analysis Batch: 512621**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

**Prep Batch: 512081**

| Analyte                              | MB Result | MB Qualifier | RL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|-----------|--------------|----|------|---|----------------|----------------|---------|
| 1,2,4-Trichlorobenzene               | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 1,2-Dichlorobenzene                  | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 1,2-Diphenylhydrazine(as Azobenzene) | ND        |              | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 1,3-Dichlorobenzene                  | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 1,4-Dichlorobenzene                  | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2,4,5-Trichlorophenol                | ND        |              | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2,4,6-Trichlorophenol                | ND        |              | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2,4-Dichlorophenol                   | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2,4-Dimethylphenol                   | ND        |              | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2,4-Dinitrophenol                    | ND        |              | 40 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2,4-Dinitrotoluene                   | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2,6-Dinitrotoluene                   | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2-Chloronaphthalene                  | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2-Chlorophenol                       | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2-Methylnaphthalene                  | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2-Methylphenol                       | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2-Nitroaniline                       | ND        |              | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2-Nitrophenol                        | ND        |              | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 440-512081/1-A**  
**Matrix: Water**  
**Analysis Batch: 512621**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 512081**

| Analyte                         | MB | MB | Result | Qualifier | RL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------------------------------|----|----|--------|-----------|----|------|---|----------------|----------------|---------|
| 3,3'-Dichlorobenzidine          |    | ND |        |           | 40 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 3-Methylphenol + 4-Methylphenol |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 3-Nitroaniline                  |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 4,6-Dinitro-2-methylphenol      |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 4-Bromophenyl phenyl ether      |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 4-Chloro-3-methylphenol         |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 4-Chloroaniline                 |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 4-Chlorophenyl phenyl ether     |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 4-Nitroaniline                  |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 4-Nitrophenol                   |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Acenaphthene                    |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Acenaphthylene                  |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Aniline                         |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Anthracene                      |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Benzidine                       |    | ND |        |           | 40 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Benzo[a]anthracene              |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Benzo[a]pyrene                  |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Benzo[b]fluoranthene            |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Benzo[g,h,i]perylene            |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Benzo[k]fluoranthene            |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Benzoic acid                    |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Benzyl alcohol                  |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| bis (2-chloroisopropyl) ether   |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Bis(2-chloroethoxy)methane      |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Bis(2-chloroethyl)ether         |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Bis(2-ethylhexyl) phthalate     |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Butyl benzyl phthalate          |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Chrysene                        |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Dibenz(a,h)anthracene           |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Dibenzofuran                    |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Diethyl phthalate               |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Dimethyl phthalate              |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Di-n-butyl phthalate            |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Di-n-octyl phthalate            |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Fluoranthene                    |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Fluorene                        |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Hexachlorobenzene               |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Hexachlorobutadiene             |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Hexachlorocyclopentadiene       |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Hexachloroethane                |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Indeno[1,2,3-cd]pyrene          |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Isophorone                      |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Naphthalene                     |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Nitrobenzene                    |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| N-Nitrosodimethylamine          |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| N-Nitrosodi-n-propylamine       |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| N-Nitrosodiphenylamine          |    | ND |        |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Pentachlorophenol               |    | ND |        |           | 20 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 | 1       |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 440-512081/1-A**

**Matrix: Water**

**Analysis Batch: 512621**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 512081**

| Analyte      | MB     |           | RL | Unit | D | Prepared       |                | Analyzed | Dil Fac |
|--------------|--------|-----------|----|------|---|----------------|----------------|----------|---------|
|              | Result | Qualifier |    |      |   | Prepared       | Analyzed       |          |         |
| Phenanthrene | ND     |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 |          | 1       |
| Phenol       | ND     |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 |          | 1       |
| Pyrene       | ND     |           | 10 | ug/L |   | 11/19/18 09:41 | 11/21/18 13:50 |          | 1       |

| Surrogate                   | MB        |           | Limits   | Prepared       |                | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
|                             | %Recovery | Qualifier |          | Prepared       | Analyzed       |         |
| 2,4,6-Tribromophenol (Surr) | 86        |           | 40 - 120 | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2-Fluorobiphenyl            | 77        |           | 50 - 120 | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| 2-Fluorophenol (Surr)       | 65        |           | 30 - 120 | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Nitrobenzene-d5 (Surr)      | 72        |           | 45 - 120 | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Phenol-d6 (Surr)            | 71        |           | 35 - 120 | 11/19/18 09:41 | 11/21/18 13:50 | 1       |
| Terphenyl-d14 (Surr)        | 105       |           | 10 - 150 | 11/19/18 09:41 | 11/21/18 13:50 | 1       |

**Lab Sample ID: LCS 440-512081/2-A**

**Matrix: Water**

**Analysis Batch: 512621**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 512081**

| Analyte                              | Spike Added | LCS      |           | Unit | D | %Rec | Limits   |
|--------------------------------------|-------------|----------|-----------|------|---|------|----------|
|                                      |             | Result   | Qualifier |      |   |      |          |
| 1,2,4-Trichlorobenzene               | 100         | 71.8     |           | ug/L |   | 72   | 25 - 84  |
| 1,2-Dichlorobenzene                  | 100         | 63.1     |           | ug/L |   | 63   | 24 - 85  |
| 1,2-Diphenylhydrazine(as Azobenzene) | 100         | 99.0     |           | ug/L |   | 99   | 44 - 113 |
| 1,3-Dichlorobenzene                  | 100         | 60.2     |           | ug/L |   | 60   | 20 - 80  |
| 1,4-Dichlorobenzene                  | 100         | 61.3     |           | ug/L |   | 61   | 22 - 81  |
| 2,4,5-Trichlorophenol                | 100         | 95.8     |           | ug/L |   | 96   | 24 - 121 |
| 2,4,6-Trichlorophenol                | 100         | 97.6     |           | ug/L |   | 98   | 20 - 121 |
| 2,4-Dichlorophenol                   | 100         | 84.5     |           | ug/L |   | 85   | 23 - 113 |
| 2,4-Dimethylphenol                   | 100         | 86.1     |           | ug/L |   | 86   | 39 - 94  |
| 2,4-Dinitrophenol                    | 200         | 184      |           | ug/L |   | 92   | 23 - 134 |
| 2,4-Dinitrotoluene                   | 100         | 99.5     |           | ug/L |   | 99   | 54 - 115 |
| 2,6-Dinitrotoluene                   | 100         | 98.2     |           | ug/L |   | 98   | 50 - 115 |
| 2-Chloronaphthalene                  | 100         | 87.7     |           | ug/L |   | 88   | 34 - 102 |
| 2-Chlorophenol                       | 100         | 66.6     |           | ug/L |   | 67   | 20 - 106 |
| 2-Methylnaphthalene                  | 100         | 86.1     |           | ug/L |   | 86   | 34 - 98  |
| 2-Methylphenol                       | 100         | 80.5     |           | ug/L |   | 80   | 36 - 103 |
| 2-Nitroaniline                       | 100         | 101      |           | ug/L |   | 101  | 48 - 111 |
| 2-Nitrophenol                        | 100         | 82.4     |           | ug/L |   | 82   | 20 - 117 |
| 3,3'-Dichlorobenzidine               | 100         | 19.3 J * |           | ug/L |   | 19   | 22 - 97  |
| 3-Methylphenol + 4-Methylphenol      | 100         | 80.1     |           | ug/L |   | 80   | 35 - 106 |
| 3-Nitroaniline                       | 100         | 63.1     |           | ug/L |   | 63   | 51 - 116 |
| 4,6-Dinitro-2-methylphenol           | 200         | 192      |           | ug/L |   | 96   | 28 - 139 |
| 4-Bromophenyl phenyl ether           | 100         | 97.7     |           | ug/L |   | 98   | 42 - 113 |
| 4-Chloro-3-methylphenol              | 100         | 97.5     |           | ug/L |   | 98   | 44 - 110 |
| 4-Chloroaniline                      | 100         | 32.3 *   |           | ug/L |   | 32   | 42 - 109 |
| 4-Chlorophenyl phenyl ether          | 100         | 95.0     |           | ug/L |   | 95   | 38 - 115 |
| 4-Nitroaniline                       | 100         | 82.5     |           | ug/L |   | 83   | 50 - 116 |
| 4-Nitrophenol                        | 200         | 195      |           | ug/L |   | 97   | 26 - 132 |
| Acenaphthene                         | 100         | 91.9     |           | ug/L |   | 92   | 37 - 107 |
| Acenaphthylene                       | 100         | 92.2     |           | ug/L |   | 92   | 39 - 107 |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-512081/2-A**

**Matrix: Water**

**Analysis Batch: 512621**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 512081**

**%Rec.**

| Analyte                       | Spike Added | LCS Result | LCS Qualifier | Unit | D   | %Rec     | Limits |
|-------------------------------|-------------|------------|---------------|------|-----|----------|--------|
| Aniline                       | 100         | 66.5       |               | ug/L | 67  | 27 - 115 |        |
| Anthracene                    | 100         | 99.0       |               | ug/L | 99  | 42 - 120 |        |
| Benzidine                     | 100         | 53.8       |               | ug/L | 54  | 5 - 150  |        |
| Benzo[a]anthracene            | 100         | 101        |               | ug/L | 101 | 42 - 115 |        |
| Benzo[a]pyrene                | 100         | 84.9       |               | ug/L | 85  | 41 - 117 |        |
| Benzo[b]fluoranthene          | 100         | 84.2       |               | ug/L | 84  | 36 - 113 |        |
| Benzo[g,h,i]perylene          | 100         | 87.7       |               | ug/L | 88  | 37 - 115 |        |
| Benzo[k]fluoranthene          | 100         | 81.8       |               | ug/L | 82  | 42 - 122 |        |
| Benzoic acid                  | 100         | 101        |               | ug/L | 101 | 15 - 121 |        |
| Benzyl alcohol                | 100         | 83.0       |               | ug/L | 83  | 39 - 106 |        |
| bis (2-chloroisopropyl) ether | 100         | 78.0       |               | ug/L | 78  | 38 - 104 |        |
| Bis(2-chloroethoxy)methane    | 100         | 86.2       |               | ug/L | 86  | 47 - 104 |        |
| Bis(2-chloroethyl)ether       | 100         | 72.5       |               | ug/L | 73  | 42 - 99  |        |
| Bis(2-ethylhexyl) phthalate   | 100         | 102        |               | ug/L | 102 | 43 - 124 |        |
| Butyl benzyl phthalate        | 100         | 107        |               | ug/L | 107 | 44 - 122 |        |
| Chrysene                      | 100         | 98.1       |               | ug/L | 98  | 42 - 118 |        |
| Dibenz(a,h)anthracene         | 100         | 88.4       |               | ug/L | 88  | 40 - 114 |        |
| Dibenzofuran                  | 100         | 93.5       |               | ug/L | 93  | 37 - 113 |        |
| Diethyl phthalate             | 100         | 100        |               | ug/L | 100 | 51 - 120 |        |
| Dimethyl phthalate            | 100         | 97.1       |               | ug/L | 97  | 49 - 113 |        |
| Di-n-butyl phthalate          | 100         | 103        |               | ug/L | 103 | 47 - 125 |        |
| Di-n-octyl phthalate          | 100         | 111        |               | ug/L | 111 | 42 - 125 |        |
| Fluoranthene                  | 100         | 103        |               | ug/L | 103 | 44 - 119 |        |
| Fluorene                      | 100         | 96.3       |               | ug/L | 96  | 39 - 116 |        |
| Hexachlorobenzene             | 100         | 101        |               | ug/L | 101 | 43 - 112 |        |
| Hexachlorobutadiene           | 100         | 66.3       |               | ug/L | 66  | 14 - 77  |        |
| Hexachlorocyclopentadiene     | 100         | 69.6       |               | ug/L | 70  | 10 - 77  |        |
| Hexachloroethane              | 100         | 56.4       |               | ug/L | 56  | 13 - 75  |        |
| Indeno[1,2,3-cd]pyrene        | 100         | 83.9       |               | ug/L | 84  | 35 - 116 |        |
| Isophorone                    | 100         | 94.9       |               | ug/L | 95  | 48 - 107 |        |
| Naphthalene                   | 100         | 78.0       |               | ug/L | 78  | 33 - 95  |        |
| Nitrobenzene                  | 100         | 79.3       |               | ug/L | 79  | 42 - 99  |        |
| N-Nitrosodimethylamine        | 100         | 71.1       |               | ug/L | 71  | 35 - 96  |        |
| N-Nitrosodi-n-propylamine     | 100         | 90.8       |               | ug/L | 91  | 44 - 111 |        |
| N-Nitrosodiphenylamine        | 100         | 96.2       |               | ug/L | 96  | 46 - 116 |        |
| Pentachlorophenol             | 200         | 181        |               | ug/L | 90  | 26 - 136 |        |
| Phenanthrene                  | 100         | 98.6       |               | ug/L | 99  | 43 - 120 |        |
| Phenol                        | 100         | 74.8       |               | ug/L | 75  | 25 - 99  |        |
| Pyrene                        | 100         | 102        |               | ug/L | 102 | 43 - 119 |        |

| Surrogate                   | LCS %Recovery | LCS Qualifier | Limits   |
|-----------------------------|---------------|---------------|----------|
| 2,4,6-Tribromophenol (Surr) | 102           |               | 40 - 120 |
| 2-Fluorobiphenyl            | 90            |               | 50 - 120 |
| 2-Fluorophenol (Surr)       | 56            |               | 30 - 120 |
| Nitrobenzene-d5 (Surr)      | 79            |               | 45 - 120 |
| Phenol-d6 (Surr)            | 70            |               | 35 - 120 |
| Terphenyl-d14 (Surr)        | 104           |               | 10 - 150 |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 440-512081/3-A**

**Matrix: Water**

**Analysis Batch: 512621**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 512081**

| Analyte                              | Spike Added | LCSD   |           | Unit | D | %Rec      | %Rec. | RPD |        |
|--------------------------------------|-------------|--------|-----------|------|---|-----------|-------|-----|--------|
|                                      |             | Result | Qualifier |      |   |           |       | 70  | Limits |
| 1,2,4-Trichlorobenzene               | 100         | 70.1   |           | ug/L |   | 25 - 84   |       | 2   | 35     |
| 1,2-Dichlorobenzene                  | 100         | 55.9   |           | ug/L |   | 56 - 85   |       | 12  | 35     |
| 1,2-Diphenylhydrazine(as Azobenzene) | 100         | 102    |           | ug/L |   | 102 - 113 |       | 3   | 35     |
| 1,3-Dichlorobenzene                  | 100         | 52.5   |           | ug/L |   | 52 - 80   |       | 14  | 35     |
| 1,4-Dichlorobenzene                  | 100         | 53.7   |           | ug/L |   | 54 - 81   |       | 13  | 35     |
| 2,4,5-Trichlorophenol                | 100         | 96.8   |           | ug/L |   | 97 - 121  |       | 1   | 35     |
| 2,4,6-Trichlorophenol                | 100         | 101    |           | ug/L |   | 101 - 121 |       | 4   | 35     |
| 2,4-Dichlorophenol                   | 100         | 89.3   |           | ug/L |   | 89 - 113  |       | 5   | 35     |
| 2,4-Dimethylphenol                   | 100         | 90.0   |           | ug/L |   | 90 - 94   |       | 4   | 35     |
| 2,4-Dinitrophenol                    | 200         | 178    |           | ug/L |   | 89 - 134  |       | 3   | 35     |
| 2,4-Dinitrotoluene                   | 100         | 101    |           | ug/L |   | 101 - 115 |       | 2   | 35     |
| 2,6-Dinitrotoluene                   | 100         | 100    |           | ug/L |   | 100 - 115 |       | 2   | 35     |
| 2-Chloronaphthalene                  | 100         | 89.2   |           | ug/L |   | 89 - 102  |       | 2   | 35     |
| 2-Chlorophenol                       | 100         | 63.4   |           | ug/L |   | 63 - 106  |       | 5   | 35     |
| 2-Methylnaphthalene                  | 100         | 87.1   |           | ug/L |   | 87 - 98   |       | 1   | 35     |
| 2-Methylphenol                       | 100         | 80.9   |           | ug/L |   | 81 - 103  |       | 1   | 35     |
| 2-Nitroaniline                       | 100         | 103    |           | ug/L |   | 103 - 111 |       | 2   | 35     |
| 2-Nitrophenol                        | 100         | 83.7   |           | ug/L |   | 84 - 117  |       | 2   | 35     |
| 3,3'-Dichlorobenzidine               | 100         | 73.8 * |           | ug/L |   | 74 - 97   |       | 117 | 35     |
| 3-Methylphenol + 4-Methylphenol      | 100         | 85.0   |           | ug/L |   | 85 - 106  |       | 6   | 35     |
| 3-Nitroaniline                       | 100         | 98.1 * |           | ug/L |   | 98 - 116  |       | 44  | 35     |
| 4,6-Dinitro-2-methylphenol           | 200         | 186    |           | ug/L |   | 93 - 139  |       | 3   | 35     |
| 4-Bromophenyl phenyl ether           | 100         | 99.6   |           | ug/L |   | 100 - 113 |       | 2   | 35     |
| 4-Chloro-3-methylphenol              | 100         | 100    |           | ug/L |   | 100 - 110 |       | 3   | 35     |
| 4-Chloroaniline                      | 100         | 76.8 * |           | ug/L |   | 77 - 109  |       | 81  | 35     |
| 4-Chlorophenyl phenyl ether          | 100         | 97.5   |           | ug/L |   | 98 - 115  |       | 3   | 35     |
| 4-Nitroaniline                       | 100         | 97.7   |           | ug/L |   | 98 - 116  |       | 17  | 35     |
| 4-Nitrophenol                        | 200         | 201    |           | ug/L |   | 101 - 132 |       | 3   | 35     |
| Acenaphthene                         | 100         | 94.2   |           | ug/L |   | 94 - 107  |       | 2   | 35     |
| Acenaphthylene                       | 100         | 94.9   |           | ug/L |   | 95 - 107  |       | 3   | 35     |
| Aniline                              | 100         | 86.2   |           | ug/L |   | 86 - 115  |       | 26  | 35     |
| Anthracene                           | 100         | 102    |           | ug/L |   | 102 - 120 |       | 3   | 35     |
| Benzidine                            | 100         | 51.9   |           | ug/L |   | 52 - 150  |       | 4   | 35     |
| Benzo[a]anthracene                   | 100         | 100    |           | ug/L |   | 100 - 115 |       | 0   | 35     |
| Benzo[a]pyrene                       | 100         | 85.7   |           | ug/L |   | 86 - 117  |       | 1   | 35     |
| Benzo[b]fluoranthene                 | 100         | 86.4   |           | ug/L |   | 86 - 113  |       | 3   | 35     |
| Benzo[g,h,i]perylene                 | 100         | 89.3   |           | ug/L |   | 89 - 115  |       | 2   | 35     |
| Benzo[k]fluoranthene                 | 100         | 83.0   |           | ug/L |   | 83 - 122  |       | 1   | 35     |
| Benzoic acid                         | 100         | 107    |           | ug/L |   | 107 - 121 |       | 6   | 35     |
| Benzyl alcohol                       | 100         | 83.1   |           | ug/L |   | 83 - 106  |       | 0   | 35     |
| bis (2-chloroisopropyl) ether        | 100         | 73.7   |           | ug/L |   | 74 - 104  |       | 6   | 35     |
| Bis(2-chloroethoxy)methane           | 100         | 87.9   |           | ug/L |   | 88 - 104  |       | 2   | 35     |
| Bis(2-chloroethyl)ether              | 100         | 65.6   |           | ug/L |   | 66 - 99   |       | 10  | 35     |
| Bis(2-ethylhexyl) phthalate          | 100         | 104    |           | ug/L |   | 104 - 124 |       | 1   | 35     |
| Butyl benzyl phthalate               | 100         | 107    |           | ug/L |   | 107 - 122 |       | 0   | 35     |
| Chrysene                             | 100         | 98.4   |           | ug/L |   | 98 - 118  |       | 0   | 35     |
| Dibenz(a,h)anthracene                | 100         | 89.2   |           | ug/L |   | 89 - 114  |       | 1   | 35     |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 440-512081/3-A**

**Matrix: Water**

**Analysis Batch: 512621**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 512081**

**%Rec.**

**RPD**

| Analyte                   | Spike Added | LCSD Result | LCSD Qualifier | Unit | D   | %Rec     | Limits | RPD | Limit |
|---------------------------|-------------|-------------|----------------|------|-----|----------|--------|-----|-------|
| Dibenzofuran              | 100         | 95.6        |                | ug/L | 96  | 37 - 113 | 2      | 35  |       |
| Diethyl phthalate         | 100         | 103         |                | ug/L | 103 | 51 - 120 | 2      | 35  |       |
| Dimethyl phthalate        | 100         | 99.0        |                | ug/L | 99  | 49 - 113 | 2      | 35  |       |
| Di-n-butyl phthalate      | 100         | 105         |                | ug/L | 105 | 47 - 125 | 2      | 35  |       |
| Di-n-octyl phthalate      | 100         | 111         |                | ug/L | 111 | 42 - 125 | 0      | 35  |       |
| Fluoranthene              | 100         | 105         |                | ug/L | 105 | 44 - 119 | 2      | 35  |       |
| Fluorene                  | 100         | 99.5        |                | ug/L | 99  | 39 - 116 | 3      | 35  |       |
| Hexachlorobenzene         | 100         | 101         |                | ug/L | 101 | 43 - 112 | 0      | 35  |       |
| Hexachlorobutadiene       | 100         | 60.8        |                | ug/L | 61  | 14 - 77  | 9      | 35  |       |
| Hexachlorocyclopentadiene | 100         | 66.0        |                | ug/L | 66  | 10 - 77  | 5      | 35  |       |
| Hexachloroethane          | 100         | 49.5        |                | ug/L | 50  | 13 - 75  | 13     | 35  |       |
| Indeno[1,2,3-cd]pyrene    | 100         | 86.3        |                | ug/L | 86  | 35 - 116 | 3      | 35  |       |
| Isophorone                | 100         | 99.3        |                | ug/L | 99  | 48 - 107 | 4      | 35  |       |
| Naphthalene               | 100         | 76.5        |                | ug/L | 77  | 33 - 95  | 2      | 35  |       |
| Nitrobenzene              | 100         | 77.2        |                | ug/L | 77  | 42 - 99  | 3      | 35  |       |
| N-Nitrosodimethylamine    | 100         | 64.2        |                | ug/L | 64  | 35 - 96  | 10     | 35  |       |
| N-Nitrosodi-n-propylamine | 100         | 94.8        |                | ug/L | 95  | 44 - 111 | 4      | 35  |       |
| N-Nitrosodiphenylamine    | 100         | 99.7        |                | ug/L | 100 | 46 - 116 | 4      | 35  |       |
| Pentachlorophenol         | 200         | 180         |                | ug/L | 90  | 26 - 136 | 1      | 35  |       |
| Phenanthrene              | 100         | 101         |                | ug/L | 101 | 43 - 120 | 3      | 35  |       |
| Phenol                    | 100         | 76.5        |                | ug/L | 77  | 25 - 99  | 2      | 35  |       |
| Pyrene                    | 100         | 102         |                | ug/L | 102 | 43 - 119 | 0      | 35  |       |

| Surrogate                   | LCSD %Recovery | LCSD Qualifier | Limits   |
|-----------------------------|----------------|----------------|----------|
| 2,4,6-Tribromophenol (Surr) | 102            |                | 40 - 120 |
| 2-Fluorobiphenyl            | 91             |                | 50 - 120 |
| 2-Fluorophenol (Surr)       | 52             |                | 30 - 120 |
| Nitrobenzene-d5 (Surr)      | 77             |                | 45 - 120 |
| Phenol-d6 (Surr)            | 68             |                | 35 - 120 |
| Terphenyl-d14 (Surr)        | 104            |                | 10 - 150 |

## Method: 8270C SIM - 1,4 Dioxane by SIM

**Lab Sample ID: MB 440-512451/1-A**

**Matrix: Water**

**Analysis Batch: 512653**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 512451**

| Analyte               | MB Result    | MB Qualifier | RL       | Unit | D              | Prepared       | Analyzed       | Dil Fac |
|-----------------------|--------------|--------------|----------|------|----------------|----------------|----------------|---------|
| 1,4-Dioxane           | ND           |              | 0.50     | ug/L | 11/20/18 12:23 | 11/21/18 14:42 |                | 1       |
| Surrogate             | MB %Recovery | MB Qualifier | Limits   |      |                | Prepared       | Analyzed       | Dil Fac |
| 1,4-Dioxane-d8 (Surr) | 58           |              | 27 - 120 |      |                | 11/20/18 12:23 | 11/21/18 14:42 | 1       |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Method: 8270C SIM - 1,4 Dioxane by SIM (Continued)

**Lab Sample ID: LCS 440-512451/2-A**

**Matrix: Water**

**Analysis Batch: 512653**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 512451**

| Analyte               | Spike Added | LCS Result    | LCS Qualifier | Unit | D  | %Rec | %Rec.    |
|-----------------------|-------------|---------------|---------------|------|----|------|----------|
| 1,4-Dioxane           | 2.00        | 1.19          |               | ug/L | 60 |      | 36 - 120 |
| Surrogate             | %Recovery   | LCS Qualifier | Limits        |      |    |      | Limits   |
| 1,4-Dioxane-d8 (Surr) | 57          |               | 27 - 120      |      |    |      |          |

**Lab Sample ID: LCSD 440-512451/3-A**

**Matrix: Water**

**Analysis Batch: 512653**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 512451**

| Analyte               | Spike Added | LCSD Result    | LCSD Qualifier | Unit | D  | %Rec | %Rec.    | RPD | Limit |
|-----------------------|-------------|----------------|----------------|------|----|------|----------|-----|-------|
| 1,4-Dioxane           | 2.00        | 1.16           |                | ug/L | 58 |      | 36 - 120 | 3   | 35    |
| Surrogate             | %Recovery   | LCSD Qualifier | Limits         |      |    |      | Limits   | RPD | Limit |
| 1,4-Dioxane-d8 (Surr) | 55          |                | 27 - 120       |      |    |      |          |     |       |

## Method: SM 2540D - Solids, Total Suspended (TSS)

**Lab Sample ID: MB 440-512804/1**

**Matrix: Water**

**Analysis Batch: 512804**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

| Analyte                | MB Result | MB Qualifier | RL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------|-----------|--------------|-----|------|---|----------|----------------|---------|
| Total Suspended Solids | ND        |              | 1.0 | mg/L |   |          | 11/21/18 21:42 | 1       |

**Lab Sample ID: LCS 440-512804/2**

**Matrix: Water**

**Analysis Batch: 512804**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

| Analyte                | Spike Added | LCS Result    | LCS Qualifier | Unit | D   | %Rec   |
|------------------------|-------------|---------------|---------------|------|-----|--------|
| Total Suspended Solids | 1000        | 1050          |               | mg/L | 105 |        |
| Surrogate              | %Recovery   | LCS Qualifier | Limits        |      |     | Limits |
| Total Suspended Solids |             |               | 85 - 115      |      |     |        |

**Lab Sample ID: 440-224774-A-1 DU**

**Matrix: Water**

**Analysis Batch: 512804**

**Client Sample ID: Duplicate**

**Prep Type: Total/NA**

| Analyte                | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | Limit |
|------------------------|---------------|------------------|-----------|--------------|------|---|-----|-------|
| Total Suspended Solids | 7700          |                  | 7800      |              | mg/L |   | 1   | 10    |

## Method: SM 4500 H+ B - pH

**Lab Sample ID: 440-224542-H-1 DU**

**Matrix: Water**

**Analysis Batch: 512170**

**Client Sample ID: Duplicate**

**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | Limit |
|---------|---------------|------------------|-----------|--------------|------|---|-----|-------|
| pH      | 7.9           |                  | 7.9       |              | SU   |   | 0.3 | 2     |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Method: SM 4500 S2 D - Sulfide, Total

**Lab Sample ID:** MB 440-512770/1-A

**Matrix:** Water

**Analysis Batch:** 512779

| Analyte            | MB<br>Result | MB<br>Qualifier | RL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------------|--------------|-----------------|-------|------|---|----------------|----------------|---------|
| Sulfide, Dissolved | ND           |                 | 0.050 | mg/L |   | 11/21/18 16:53 | 11/21/18 17:35 | 1       |

**Lab Sample ID:** LCS 440-512770/2-A

**Matrix:** Water

**Analysis Batch:** 512779

| Analyte            | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec. | Limits   |
|--------------------|----------------|---------------|------------------|------|---|-------|----------|
| Sulfide, Dissolved | 0.500          | 0.409         |                  | mg/L |   | 82    | 80 - 120 |

**Lab Sample ID:** LCSD 440-512770/3-A

**Matrix:** Water

**Analysis Batch:** 512779

| Analyte            | Spike<br>Added | LCSD<br>Result | LCSD<br>Qualifier | Unit | D | %Rec. | RPD      | Limit |
|--------------------|----------------|----------------|-------------------|------|---|-------|----------|-------|
| Sulfide, Dissolved | 0.500          | 0.439          |                   | mg/L |   | 88    | 80 - 120 | 7 20  |

**Lab Sample ID:** 440-224340-A-2-B MS

**Matrix:** Water

**Analysis Batch:** 512779

| Analyte            | Sample<br>Result | Sample<br>Qualifier | Spike<br>Added | MS<br>Result | MS<br>Qualifier | Unit | D | %Rec. | Limits   |
|--------------------|------------------|---------------------|----------------|--------------|-----------------|------|---|-------|----------|
| Sulfide, Dissolved | ND               | F1 HF               | 0.500          | 0.355        | HF              | mg/L |   | 71    | 70 - 130 |

**Lab Sample ID:** 440-224340-A-2-C MSD

**Matrix:** Water

**Analysis Batch:** 512779

| Analyte            | Sample<br>Result | Sample<br>Qualifier | Spike<br>Added | MSD<br>Result | MSD<br>Qualifier | Unit | D | %Rec. | RPD      | Limit |
|--------------------|------------------|---------------------|----------------|---------------|------------------|------|---|-------|----------|-------|
| Sulfide, Dissolved | ND               | F1 HF               | 0.500          | 0.302         | F1 HF            | mg/L |   | 60    | 70 - 130 | 16 30 |

**Lab Sample ID:** MB 440-513192/1-A

**Matrix:** Water

**Analysis Batch:** 513202

| Analyte            | MB<br>Result | MB<br>Qualifier | RL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------------|--------------|-----------------|-------|------|---|----------------|----------------|---------|
| Sulfide, Dissolved | ND           |                 | 0.050 | mg/L |   | 11/26/18 16:42 | 11/26/18 17:35 | 1       |

**Lab Sample ID:** LCS 440-513192/2-A

**Matrix:** Water

**Analysis Batch:** 513202

| Analyte            | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec. | Limits   |
|--------------------|----------------|---------------|------------------|------|---|-------|----------|
| Sulfide, Dissolved | 0.500          | 0.468         |                  | mg/L |   | 94    | 80 - 120 |

**Lab Sample ID:** LCSD 440-513192/3-A

**Matrix:** Water

**Analysis Batch:** 513202

| Analyte            | Spike<br>Added | LCSD<br>Result | LCSD<br>Qualifier | Unit | D | %Rec. | RPD      | Limit |
|--------------------|----------------|----------------|-------------------|------|---|-------|----------|-------|
| Sulfide, Dissolved | 0.500          | 0.442          |                   | mg/L |   | 88    | 80 - 120 | 6 20  |

TestAmerica Irvine

# QC Sample Results

Client: Jacob & Hefner Associates P.C.  
 Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
 SDG: Whittier

**Lab Sample ID: 440-224565-2 DU**  
**Matrix: Water**  
**Analysis Batch: 513202**

**Client Sample ID: Grab**  
**Prep Type: Dissolved**  
**Prep Batch: 513192**

| Analyte            | Sample | Sample    | DU     | DU        | RPD  | Limit |    |    |
|--------------------|--------|-----------|--------|-----------|------|-------|----|----|
|                    | Result | Qualifier | Result | Qualifier | Unit | D     |    |    |
| Sulfide, Dissolved | ND     | H HF      | ND     |           | mg/L | D     | NC | 30 |

## Method: SM 5220D - COD

**Lab Sample ID: MB 440-513169/3**  
**Matrix: Water**  
**Analysis Batch: 513169**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

| Analyte                | MB     | MB        | RL | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------|--------|-----------|----|------|---|----------|----------------|---------|
|                        | Result | Qualifier |    |      |   |          |                |         |
| Chemical Oxygen Demand | ND     |           | 20 | mg/L | D |          | 11/26/18 15:13 | 1       |

**Lab Sample ID: LCS 440-513169/4**  
**Matrix: Water**  
**Analysis Batch: 513169**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

| Analyte                | Spike | LCS   | LCS    | Unit | D | %Rec. | Limits   |
|------------------------|-------|-------|--------|------|---|-------|----------|
|                        |       | Added | Result |      |   |       |          |
| Chemical Oxygen Demand | 200   |       | 191    | mg/L | D | 95    | 90 - 110 |

**Lab Sample ID: 440-224866-A-1 MS**  
**Matrix: Water**  
**Analysis Batch: 513169**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

| Analyte                | Sample | Sample    | Spike | MS     | MS        | Unit | D | %Rec. | Limits   |
|------------------------|--------|-----------|-------|--------|-----------|------|---|-------|----------|
|                        | Result | Qualifier | Added | Result | Qualifier |      |   |       |          |
| Chemical Oxygen Demand | 58     |           | 200   | 258    |           | mg/L | D | 100   | 70 - 120 |

**Lab Sample ID: 440-224866-A-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 513169**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

| Analyte                | Sample | Sample    | Spike | MSD    | MSD       | Unit | D | %Rec. | Limits   | RPD | Limit |
|------------------------|--------|-----------|-------|--------|-----------|------|---|-------|----------|-----|-------|
|                        | Result | Qualifier | Added | Result | Qualifier |      |   |       |          |     |       |
| Chemical Oxygen Demand | 58     |           | 200   | 265    |           | mg/L | D | 103   | 70 - 120 | 3   | 15    |

**Lab Sample ID: 440-224866-A-1 DU**  
**Matrix: Water**  
**Analysis Batch: 513169**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

| Analyte                | Sample | Sample    | DU     | DU        | Unit | D | RPD | Limit |
|------------------------|--------|-----------|--------|-----------|------|---|-----|-------|
|                        | Result | Qualifier | Result | Qualifier |      |   |     |       |
| Chemical Oxygen Demand | 58     |           | 61.1   |           | mg/L | D | 5   | 15    |

# QC Association Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## GC/MS VOA

### Analysis Batch: 512264

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 440-224565-2       | Grab                   | Total/NA  | Water  | 8260B  |            |
| MB 440-512264/7    | Method Blank           | Total/NA  | Water  | 8260B  |            |
| LCS 440-512264/5   | Lab Control Sample     | Total/NA  | Water  | 8260B  |            |
| 440-224675-D-2 MS  | Matrix Spike           | Total/NA  | Water  | 8260B  |            |
| 440-224675-D-2 MSD | Matrix Spike Duplicate | Total/NA  | Water  | 8260B  |            |

### Analysis Batch: 512972

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 440-224565-2       | Grab                   | Total/NA  | Water  | 8260B  |            |
| MB 440-512972/4    | Method Blank           | Total/NA  | Water  | 8260B  |            |
| LCS 440-512972/5   | Lab Control Sample     | Total/NA  | Water  | 8260B  |            |
| 440-224522-A-4 MS  | Matrix Spike           | Total/NA  | Water  | 8260B  |            |
| 440-224522-A-4 MSD | Matrix Spike Duplicate | Total/NA  | Water  | 8260B  |            |

### Analysis Batch: 513044

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 440-224565-2 - RA   | Grab                   | Total/NA  | Water  | 8260B  |            |
| MB 440-513044/4     | Method Blank           | Total/NA  | Water  | 8260B  |            |
| LCS 440-513044/5    | Lab Control Sample     | Total/NA  | Water  | 8260B  |            |
| 440-224495-A-13 MS  | Matrix Spike           | Total/NA  | Water  | 8260B  |            |
| 440-224495-A-13 MSD | Matrix Spike Duplicate | Total/NA  | Water  | 8260B  |            |

## GC/MS Semi VOA

### Prep Batch: 512081

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 440-224565-2        | Grab                   | Total/NA  | Water  | 3520C  |            |
| MB 440-512081/1-A   | Method Blank           | Total/NA  | Water  | 3520C  |            |
| LCS 440-512081/2-A  | Lab Control Sample     | Total/NA  | Water  | 3520C  |            |
| LCSD 440-512081/3-A | Lab Control Sample Dup | Total/NA  | Water  | 3520C  |            |

### Prep Batch: 512451

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 440-224565-2        | Grab                   | Total/NA  | Water  | 3520C  |            |
| MB 440-512451/1-A   | Method Blank           | Total/NA  | Water  | 3520C  |            |
| LCS 440-512451/2-A  | Lab Control Sample     | Total/NA  | Water  | 3520C  |            |
| LCSD 440-512451/3-A | Lab Control Sample Dup | Total/NA  | Water  | 3520C  |            |

### Analysis Batch: 512621

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 440-224565-2        | Grab                   | Total/NA  | Water  | 8270C  |            |
| MB 440-512081/1-A   | Method Blank           | Total/NA  | Water  | 8270C  |            |
| LCS 440-512081/2-A  | Lab Control Sample     | Total/NA  | Water  | 8270C  |            |
| LCSD 440-512081/3-A | Lab Control Sample Dup | Total/NA  | Water  | 8270C  |            |

### Analysis Batch: 512653

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix | Method    | Prep Batch |
|--------------------|--------------------|-----------|--------|-----------|------------|
| 440-224565-2       | Grab               | Total/NA  | Water  | 8270C SIM |            |
| MB 440-512451/1-A  | Method Blank       | Total/NA  | Water  | 8270C SIM |            |
| LCS 440-512451/2-A | Lab Control Sample | Total/NA  | Water  | 8270C SIM |            |

TestAmerica Irvine

# QC Association Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## GC/MS Semi VOA (Continued)

### Analysis Batch: 512653 (Continued)

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method    | Prep Batch |
|---------------------|------------------------|-----------|--------|-----------|------------|
| LCSD 440-512451/3-A | Lab Control Sample Dup | Total/NA  | Water  | 8270C SIM | 512451     |

## General Chemistry

### Analysis Batch: 512170

| Lab Sample ID     | Client Sample ID | Prep Type | Matrix | Method       | Prep Batch |
|-------------------|------------------|-----------|--------|--------------|------------|
| 440-224565-2      | Grab             | Total/NA  | Water  | SM 4500 H+ B |            |
| 440-224542-H-1 DU | Duplicate        | Total/NA  | Water  | SM 4500 H+ B |            |

### Prep Batch: 512770

| Lab Sample ID        | Client Sample ID       | Prep Type | Matrix | Method       | Prep Batch |
|----------------------|------------------------|-----------|--------|--------------|------------|
| MB 440-512770/1-A    | Method Blank           | Dissolved | Water  | SM 4500 S2 B |            |
| LCS 440-512770/2-A   | Lab Control Sample     | Dissolved | Water  | SM 4500 S2 B |            |
| LCSD 440-512770/3-A  | Lab Control Sample Dup | Dissolved | Water  | SM 4500 S2 B |            |
| 440-224340-A-2-B MS  | Matrix Spike           | Dissolved | Water  | SM 4500 S2 B |            |
| 440-224340-A-2-C MSD | Matrix Spike Duplicate | Dissolved | Water  | SM 4500 S2 B |            |

### Analysis Batch: 512779

| Lab Sample ID        | Client Sample ID       | Prep Type | Matrix | Method       | Prep Batch |
|----------------------|------------------------|-----------|--------|--------------|------------|
| MB 440-512770/1-A    | Method Blank           | Dissolved | Water  | SM 4500 S2 D | 512770     |
| LCS 440-512770/2-A   | Lab Control Sample     | Dissolved | Water  | SM 4500 S2 D | 512770     |
| LCSD 440-512770/3-A  | Lab Control Sample Dup | Dissolved | Water  | SM 4500 S2 D | 512770     |
| 440-224340-A-2-B MS  | Matrix Spike           | Dissolved | Water  | SM 4500 S2 D | 512770     |
| 440-224340-A-2-C MSD | Matrix Spike Duplicate | Dissolved | Water  | SM 4500 S2 D | 512770     |

### Analysis Batch: 512804

| Lab Sample ID     | Client Sample ID   | Prep Type | Matrix | Method   | Prep Batch |
|-------------------|--------------------|-----------|--------|----------|------------|
| 440-224565-1      | Composite          | Total/NA  | Water  | SM 2540D |            |
| MB 440-512804/1   | Method Blank       | Total/NA  | Water  | SM 2540D |            |
| LCS 440-512804/2  | Lab Control Sample | Total/NA  | Water  | SM 2540D |            |
| 440-224774-A-1 DU | Duplicate          | Total/NA  | Water  | SM 2540D |            |

### Analysis Batch: 513169

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 440-224565-1       | Composite              | Total/NA  | Water  | SM 5220D |            |
| MB 440-513169/3    | Method Blank           | Total/NA  | Water  | SM 5220D |            |
| LCS 440-513169/4   | Lab Control Sample     | Total/NA  | Water  | SM 5220D |            |
| 440-224866-A-1 MS  | Matrix Spike           | Total/NA  | Water  | SM 5220D |            |
| 440-224866-A-1 MSD | Matrix Spike Duplicate | Total/NA  | Water  | SM 5220D |            |
| 440-224866-A-1 DU  | Duplicate              | Total/NA  | Water  | SM 5220D |            |

### Prep Batch: 513192

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method       | Prep Batch |
|---------------------|------------------------|-----------|--------|--------------|------------|
| 440-224565-2        | Grab                   | Dissolved | Water  | SM 4500 S2 B |            |
| MB 440-513192/1-A   | Method Blank           | Dissolved | Water  | SM 4500 S2 B |            |
| LCS 440-513192/2-A  | Lab Control Sample     | Dissolved | Water  | SM 4500 S2 B |            |
| LCSD 440-513192/3-A | Lab Control Sample Dup | Dissolved | Water  | SM 4500 S2 B |            |
| 440-224565-2 DU     | Grab                   | Dissolved | Water  | SM 4500 S2 B |            |

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# QC Association Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## General Chemistry (Continued)

### Analysis Batch: 513202

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method       | Prep Batch |
|---------------------|------------------------|-----------|--------|--------------|------------|
| 440-224565-2        | Grab                   | Dissolved | Water  | SM 4500 S2 D | 513192     |
| MB 440-513192/1-A   | Method Blank           | Dissolved | Water  | SM 4500 S2 D | 513192     |
| LCS 440-513192/2-A  | Lab Control Sample     | Dissolved | Water  | SM 4500 S2 D | 513192     |
| LCSD 440-513192/3-A | Lab Control Sample Dup | Dissolved | Water  | SM 4500 S2 D | 513192     |
| 440-224565-2 DU     | Grab                   | Dissolved | Water  | SM 4500 S2 D | 513192     |

## Field Service / Mobile Lab

### Analysis Batch: 511999

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method         | Prep Batch |
|---------------|------------------|-----------|--------|----------------|------------|
| 440-224565-2  | Grab             | Total/NA  | Water  | Field Sampling |            |

# Definitions/Glossary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description                                |
|-----------|--|
| X         | Surrogate is outside control limits                  |
| F1        | MS and/or MSD Recovery is outside acceptance limits. |

### GC/MS Semi VOA

| Qualifier | Qualifier Description  |
|-----------|--|
| *         | LCS or LCSD is outside acceptance limits.  |
| *         | RPD of the LCS and LCSD exceeds the control limits   |
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### General Chemistry

| Qualifier | Qualifier Description  |
|-----------|--|
| HF        | Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. |
| F1        | MS and/or MSD Recovery is outside acceptance limits.   |
| H         | Sample was prepped or analyzed beyond the specified holding time                                     |

## Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| □              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.  
Project/Site: Omega Chemical Wastewater

TestAmerica Job ID: 440-224565-1  
SDG: Whittier

## Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority  | Program       | EPA Region | Identification Number | Expiration Date |
|------------|---------------|------------|-----------------------|-----------------|
| California | State Program | 9          | CA ELAP 2706          | 06-30-19        |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte                               |
|-----------------|-------------|--------|---------------------------------------|
| 8260B           |             | Water  | 1,1,2-Trichloro-1,2,2-trifluoroethane |
| 8260B           |             | Water  | m,p-Xylene                            |
| 8260B           |             | Water  | Total Volatile Organic Compounds      |
| 8270C           | 3520C       | Water  | 2-Methylphenol                        |
| 8270C           | 3520C       | Water  | 3-Methylphenol + 4-Methylphenol       |
| 8270C           | 3520C       | Water  | 4-Chloroaniline                       |
| 8270C           | 3520C       | Water  | Benzidine                             |
| 8270C SIM       | 3520C       | Water  | 1,4-Dioxane                           |
| Field Sampling  |             | Water  | Field pH                              |
| Field Sampling  |             | Water  | Field Temperature                     |

## **Chain of Custody Record**

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## Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-224565-1

SDG Number: Whittier

**Login Number:** 224565

**List Source:** TestAmerica Irvine

**List Number:** 1

**Creator:** Soderblom, Tim

| Question   | Answer | Comment     |    |
|--|--------|-------------|----|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | True   |             | 1  |
| The cooler's custody seal, if present, is intact.                                | N/A    | Not present | 2  |
| Sample custody seals, if present, are intact.                                    | N/A    | Not Present | 3  |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |             | 4  |
| Samples were received on ice.  | True   |             | 5  |
| Cooler Temperature is acceptable.  | True   |             | 6  |
| Cooler Temperature is recorded.  | True   |             | 7  |
| COC is present.  | True   |             | 8  |
| COC is filled out in ink and legible.  | True   |             | 9  |
| COC is filled out with all pertinent information.                                | True   |             | 10 |
| Is the Field Sampler's name present on COC?                                      | True   |             | 11 |
| There are no discrepancies between the containers received and the COC.          | True   |             | 12 |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |             | 13 |
| Sample containers have legible labels.   | True   |             | 14 |
| Containers are not broken or leaking.  | True   |             | 15 |
| Sample collection date/times are provided.                                       | True   |             |    |
| Appropriate sample containers are used.  | True   |             |    |
| Sample bottles are completely filled.  | True   |             |    |
| Sample Preservation Verified.  | N/A    |             |    |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |             |    |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | True   |             |    |
| Multiphasic samples are not present.   | True   |             |    |
| Samples do not require splitting or compositing.                                 | True   |             |    |
| Residual Chlorine Checked.   | N/A    |             |    |

## **ATTACHMENT G**

**Other Data Collected this Quarter**



■ OU-1 On-Site Soil Remedy  
 Dual Phase Extraction Well  
● Observation Well/Piezometer

■ Former Omega Chemical  
 Property Boundary  
■ OU-1 Boundary



Reviewed By: LEM  
 Drawn By: KM  
 Date: 1/15/2019

**Attachment G, Figure G-1  
 Other Groundwater Data Locations  
 Omega Chemical Superfund Site**

**Attachment G, Table G-1**  
**Other Groundwater Elevation Data Collected This Quarter**  
**Omega Chemical Superfund Site**  
**Fourth Quarter 2018**

| Well No. | Top of Casing Elevation (feet MSL) | Screen Interval (feet MSL) | Date       | Depth To Water (feet btoc) | Groundwater Elevation (feet MSL) |
|----------|------------------------------------|----------------------------|------------|----------------------------|----------------------------------|
| PZ-9     | 197.97                             | 108.49 - 128.49            | 11/16/2018 | 84.85                      | 113.12                           |
| OW11     | 200.06                             | 100.52 - 120.52            | 11/16/2018 | 86.83                      | 113.23                           |
| OW13B    | 210.89                             | 71.37 - 81.37              | 11/16/2018 | 99.80                      | 111.09                           |
| DPE-3    | 206.76                             | 109.32 - 169.32            | 11/16/2018 | 92.45                      | 114.31                           |
| DPE-4    | 202.97                             | 105.50 - 165.50            | 11/16/2018 | 91.86                      | 111.11                           |
| DPE-5    | 201.77                             | 104.36 - 164.36            | 11/16/2018 | 91.76                      | 110.01                           |
| DPE-8    | 204.87                             | 107.46 - 167.46            | 11/16/2018 | 90.89                      | 113.98                           |
| DPE-9    | 199.06                             | 101.59 - 161.59            | 11/16/2018 | 85.92                      | 113.14                           |
| VE-7D    | 200.11                             | 102.03 - 162.03            | 11/16/2018 | 92.69                      | 107.42                           |
| VE-10D   | 198.80                             | 100.66 - 160.66            | 11/16/2018 | 94.13                      | 104.67                           |

Notes:

Elevation data per California Coordinate System NADV88

btoc = below top of casing

Dry = No water detected, water detected below the screen interval, or water detected at or near total depth of well

MSL = mean sea level

**Attachment G, Table G-2**  
**Other Groundwater Pumping Data Collected This Quarter**  
**Omega Chemical Superfund Site**  
**Fourth Quarter 2018**

|       |                  | Pump<br>Runtime<br>(hrs) | Total Volume<br>Extracted<br>(gal) | Operational<br>Flow Rate <sup>1</sup><br>(gpm) | Average<br>Flow Rate <sup>2</sup><br>(gpm) |
|-------|------------------|--------------------------|------------------------------------|--|--|
| DPE-3 | October 2018     | 96.1                     | 14,936                             | 2.59   | 0.33                                       |
|       | November 2018    | 79.6                     | 11,778                             | 2.47   | 0.27                                       |
|       | December 2018    | 80.6                     | 13,440                             | 2.78   | 0.30                                       |
|       | 4th Quarter 2018 | 256                      | 40,153                             | 2.61   | 0.30                                       |
| DPE-4 | October 2018     | 153                      | 21,956                             | 2.39   | 0.49                                       |
|       | November 2018    | 110                      | 14,608                             | 2.21   | 0.34                                       |
|       | December 2018    | 180                      | 24,833                             | 2.30   | 0.56                                       |
|       | 4th Quarter 2018 | 443                      | 61,397                             | 2.30   | 0.46                                       |
| DPE-5 | October 2018     | 171                      | 22,701                             | 2.21   | 0.51                                       |
|       | November 2018    | 159                      | 19,303                             | 2.03   | 0.45                                       |
|       | December 2018    | 188                      | 24,277                             | 2.15   | 0.54                                       |
|       | 4th Quarter 2018 | 519                      | 66,281                             | 2.13   | 0.50                                       |
| DPE-8 | October 2018     | 97.4                     | 10,457                             | 1.79   | 0.23                                       |
|       | November 2018    | 104                      | 10,364                             | 1.66   | 0.24                                       |
|       | December 2018    | 150                      | 12,649                             | 1.40   | 0.28                                       |
|       | 4th Quarter 2018 | 352                      | 33,470                             | 1.62   | 0.25                                       |
| DPE-9 | October 2018     | 0                        | 0                                  | 0  | 0  |
|       | November 2018    | 204                      | 31,853                             | 2.61   | 0.74                                       |
|       | December 2018    | 48.4                     | 10,655                             | 3.67   | 0.24                                       |
|       | 4th Quarter 2018 | 252                      | 42,509                             | 2.09   | 0.33                                       |

**Attachment G, Table G-2**  
**Other Groundwater Pumping Data Collected This Quarter**  
**Omega Chemical Superfund Site**  
**Fourth Quarter 2018**

|        |                  | Pump Runtime<br>(hrs) | Total Volume Extracted<br>(gal) | Operational Flow Rate <sup>1</sup><br>(gpm) | Average Flow Rate <sup>2</sup><br>(gpm) |
|--------|------------------|-----------------------|---------------------------------|---|---|
| VE-7D  | October 2018     | 692                   | 41,636                          | 1.00  | 0.93                                    |
|        | November 2018    | 295                   | 36,191                          | 2.04  | 0.84                                    |
|        | December 2018    | 319                   | 39,002                          | 2.04  | 0.87                                    |
|        | 4th Quarter 2018 | 1,306                 | 116,829                         | 1.70  | 0.88                                    |
| VE-10D | October 2018     | 638                   | 87,474                          | 2.28  | 1.96                                    |
|        | November 2018    | 604                   | 71,662                          | 1.98  | 1.66                                    |
|        | December 2018    | 678                   | 78,492                          | 1.93  | 1.76                                    |
|        | 4th Quarter 2018 | 1,920                 | 237,627                         | 2.06  | 1.79                                    |

Notes:

1. Operational flow rate calculated from total gallons processed in the month and hours the pump actually operated in the month.

2. Average flow rate is calculated from total gallons processed in the month and total hours in the month, regardless of pump uptime.

All extraction wells operate on/off based on water levels measured by pressure transducers installed in each well.

hrs = hours

gal = gallons

gpm = gallons per minute